BY ORDER OF THE COMMANDER
MCCHORD AIR FORCE BASE

MCCHORD AIR FORCE BASE
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Maintenance

MCCHORD AFB AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Certified by: 62 MXG/CC
(Colonel Tracy A. Smiedendorf)
Pages: 218

This instruction implements and extends the prescribed policies and procedures governing equipment maintenance management in the 62d Airlift Wing (62 AW). This instruction applies to all units and personnel assigned to the 62 AW and 446 AW.

Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims**/.

Refer recommended changes and questions about this instruction to the Office of Primary Responsibility (OPR) (listed at the beginning of each chapter) using the AF IMT 847, *Recommendation for Change of Publication;* route AF IMT 847s from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

McChord AFB, Joint Base Lewis-McChord (JBLM) and McChord Field are synonymous throughout this publication. Chapter 4, Paragraph 4.3. was changed to remove the color of the circuit breaker collars, Paragraph 4.4 was changed to remove deleted attachments 15 and 16, Paragraph 4.4.1.1. was rewritten for clarity, Paragraph 4.4.1.2. was deleted, 4.4.1.3. and 4.4.1.4. were rewritten for clarity. Paragraphs 4.4.1.5. and 4.4.2. were deleted. Paragraph 4.4.3. was rewritten for clarity, paragraph 4.4.4. was changed to add reference to AFI 21-101 and MAJCOM supplement, paragraphs 4.4.5.1. and 4.5.2.1. were added. Chapter 5, Paragraph 5.3.2.7. was changed to add in recording feedback, Paragraph 5.3.2.11. was added , paragraph 5.3.4.3. was changed to include STAT information, paragraph 5.3.4.9. was reworded for clarity, paragraph 5.3.4.10 was added, paragraph 5.4.1.5.1. was reworded for clarity, paragraphs 5.4.3.2.2., 5.4.3.2.3. 5.4.3.2.4., 5.4.3.2.4.1, 5.4.3.2.4.2., were reworded for clarity, paragraph 5.4.3.2.4.3. was added, paragraphs 5.4.3.2.5., 5.4.3.2.6.1.and 5.4.3.2.9. were reworded for clarity, and paragraph 5.4.1.1.5.was added to include MRM Implementation Tools which were left out of the December 2009 rewrite. Chapter 11, Paragraph 11.1.2. was changed to correct the attachment number. Chapter 12, paragraph 12.2.3., 12.3.4., 12.4.2., and 12.7.2. were deleted as they are no longer applicable. Paragraph 12.2.3.1. was changed to remove the reference to the attachment. Paragraph 12.2.3.2. was rewritten to clarify who may appoint a unit TODO/TODA. Paragraph 12.3.5. was changed to delete the reference to DTOS and add ETIMS. Paragraph 12.3.6. was changed to remove the reference to DTOS and add ETIMS. Paragraph 12.4.7. was changed due to recent change in AFI 21-10 inspection requirements. Paragraphs 12.5.1., 12.5.2., 12.5.2.1.,and 12.5.4. were deleted. Paragraph 12.5.3. was reworded to clarify procedures for partial print outs. Paragraph 12.6.1. was changed to update the information for TO 00-5-1. Paragraph 12.7.3. was changed to include all support sections, not just AMXS. Paragraph 12.7.4.1. was changed to add information for TO 00-5-1. Chapter 14, paragraph 14.3.4.6. was changed to correct the attachment number. Chapter 15, paragraph 15.5.1. was changed to remove the reference to DTOS and add ETIMS. Paragraph 15.7.1.2. was added to cover 90 day E-Tool inspection, cleaning and battery charging requirements. Paragraph 15.10.4. was changed to correct the attachment number. Paragraph 15.10.8 was changed to correct the attachment number. Chapter 16, throughout the entire chapter any reference to Aircraft Parts Store (APS) was changed to LRS/APS to avoid confusion with Aerial Port Squadron (APS), paragraph 16.3.1. was changed to delete XA and XC from the paragraph as these are not processed in the LM process. Paragraph 16.3.2.1.6.1. was added. Paragraph 16.3.2.1.7. was changed to delete "save and close" and add "OK" in its place. The button has changed to "OK". Paragraph 16.3.6.1. was deleted. The shops determine if a part can be made. Paragraph 16.3.6.3. the second line was deleted. The process is now handled through a share point, no manual routing is required. Paragraph 16.3.6.5. was changed to delete the reference to the LM Checklist and other forms. Only A0A is required. Paragraph 16.3.7.3. was changed to delete FSC and replaced with Delivery Driver. Paragraph 16.3.8.1.5., 16.3.8.1.6., 16.3.8.17., 16.3.8.2. and 16.3.8.3. were deleted as they are no longer required. Paragraph 16.3.9. was changed to delete last sentence. All shifts can now accomplish this task. Chapter 18, paragraphs 18.3.3.4, 18.3.3.5, 18.3.3.6, were changed to clarify ASIP procedures. Paragraphs 18.3.3.12 through 18.3.3.14 were added. Paragraph 18.3.4. through 18.3.4.5 were deleted. Paragraph 18.3.6.1. was changed to clarify procedures. Chapter 19, any reference to Aircraft Parts Store (APS) was changed to LRS/APS to avoid confusion with Aerial Port Squadron (APS). Chapter 21, paragraphs 21.2.1. through

21.2.3. were changed to correct attachment numbers. Chapter 23, paragraph 2.2.2.2. changed "encouraged" to "required". Paragraph 23.5.1. had new criteria added that was inadvertently left off in the original document. Chapter 25, paragraph 25.5.5.1. "62" was added in front of APS to clarify that this is 62 Aerial Port Squadron and Aircraft Parts Store (APS). Chapter 29, paragraph 29.5. was changed to correct the attachment number. Chapter 30, paragraph 30.2.3. was changed to correct the distances for single hearing protection. Paragraph 30.2.5. was added to include hearing protection required around AGE. Chapter 34, paragraph 34.3.1.2. was changed to add reference to Attachment 51. Chapter 35, Paragraph 35.3.7 and 35.3.8. were changed to align with AFI 21-101 guidance, paragraph 35.3.3. was changed by adding reference to Attachment 28, Paragraph 35.3.9. was changed to add "delayed discrepancy" to the title of the form. Paragraph 35.3.10 was deleted as it is now part of Paragraph 35.3.9. Chapter 36 was added to include information about vehicle backing operations from a guidance memorandum. Chapter 37 was added to include information about maintenance while aircraft is on jacks from a guidance memorandum. Chapter 38 was added to include procedures for above idle engine run guidance memorandum. Attachment 1 was changed to add AFMAN 24-306, MAFBI 13-4, and AFI 21-101AMCSUPCL-3. TOs 1C-17A-2-71JG-00-1 and 1C-17A-2-71JG-00-3 were also added. Reference to APS-Aircraft Parts Store was deleted. LRS/APS- Aircraft Parts Store was added. Reference for TC Max was added. The reference for DTOS was removed. Attachment 7, paragraph A7.1. was changed to add statement about wheel placement markings not being painted on the floor. Also CAUTION was removed concerning door stoppers. Attachment 14 was changed and Attachments 15 and 16 were deleted. Attachment 29 was changed to move 373 Training Squadron under the Maintenance Group Lead TODO. Attachment 34 was changed to correct errors in the major and minor discrepancies. Attachment 35 was changed to add requirement to verify aircraft weight and balance information. Attachment 39 was changed to correct the WWIDs for Maintenance APG, JETS, AR, and TOOL ROOM. Attachment 46 was updated to correct the reference to AFI21-101 AMCSUPCL-3 instead of AFI21-101_MAF-CL-3. Attachment 50 item 6 was changed to add LRS to APS. Attachment 53 was added to include LM Checklist. Attachment 54 was added to include inspection and cleaning criteria for E-Tools. Attachment 55 was added to include battery charging procedures for E-Tools. Attachment 56 is added to include checklist for off-station acceptance inspections.

Chapter 1

HANGAR DOOR OPERATION

1.1. Introduction. This chapter establishes responsibilities and procedures for proper and safe hangar door operation for facilities assigned to the 62d and 446th Airlift Wings (62/446 AW). OPR for this chapter is 62 MXG/QAE (DSN 382-6975/4152/Commercial 253-982-6975/4152)

1.2. Procedures.

1.2.1. This chapter contains all steps necessary for safe operation of designated hangar doors. All personnel operating hangar doors must be familiar with and comply with all directions covered under AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health Program (AFOSH)*; Air Force Occupational Safety and Health Standard (AFOSHSTD) 91-100, *Aircraft Flight Line - Ground Operations and Activities*; AFOSHSTD 91-501, *Air Force Consolidated Occupational Safety Standard*; and AFOSHSTD 91-100, AMC Sup 1. **NOTE:** Each hangar type has a separate and individual instruction for the operation of its doors. This chapter and Attachments 2-9 to this instruction will be posted on hangar doors for the operator's use.

1.2.2. All personnel required to operate hangar doors will receive annual door-specific on-the-job training (OJT) from a certified trainer (5-skill level or civilian equivalent) using a current lesson plan. The training plans are located in \\AW_Common\Common\Hangar Doors\Hangar Door Training\Masters (See Attachment 10 for course codes.) Work center personnel previously identified in Core Automated Maintenance System (CAMS) for Mobility (G081) as qualified under course code SAFE 1100 and are current operators of their work center hangar doors are considered qualified to train and will train and certify new users on only their specific work center hangar doors. Certification for maintenance personnel will be entered into the G081 system. Non-maintenance personnel will use an AF IMT 55, Employee Safety and Health Record, for documentation of their training. Dual-training documentation is not required in accordance with (IAW) AFI 91-301, paragraph 7.3.1. However, AF IMT 55 must list hangars as work center safety hazards.

1.2.2.1. All personnel that routinely work in hangar facilities in the performance of their duties, regardless of Air Force specialty code or duties, must receive initial awareness training available via computer-based training (CBT) at the Distance Learning Center or its website: **https://62mxginfo.mcchord.af.mil/dlc/main.asp** upon assignment. Awareness training will be documented in G081 using course code SAFE 1100 for maintenance personnel and the AF IMT 55 for all others.

1.2.2.2. For non-maintenance personnel required to operate hangar doors, the squadron commander will forward a letter to the 62d Maintenance Group Commander (62 MXG/CC) listing qualified and authorized door operators for each type of hangar door. Total number of qualified operators will be kept to a minimum.

1.2.3. Hangar doors will only be operated using the "two person" concept with the second person acting as a safety observer during operation. They will also act as a safety guard in the case of a door malfunction while the first person seeks assistance.

1.2.4. To save heat during cold weather operations, the following instructions will apply:

1.2.4.1. When towing aircraft into and out of hangars, the tow supervisor will ensure the hangar doors are opened/closed as required for energy conservation.

1.2.4.2. The main hangar doors will be utilized for entry/exit of vehicles and equipment that cannot be safely moved through the service roll up doors.

1.2.5. As applicable, the work center supervisor/facility manager of each hangar will:

1.2.5.1. Maintain the door operating instruction using current attachments to this instruction.

1.2.5.2. Post a current set of door operating instruction by each door's control switch.

1.2.5.3. Maintain legible identification stencils for all door control switches.

1.2.5.4. Maintain hangar door "FULL OPEN POSITION" markings located at the wing tip clearance floor marking or wider.

1.2.5.5. Ensure a nose wheel stop line perpendicular to the nose wheel guideline is maintained outside each hangar and identified with "STOP! CHECK WING TIP CLEARANCE HERE" markings.

1.2.5.6. Paint a nose wheel stop line inside the hangar, perpendicular to the nose wheel guideline, to indicate the mandatory stop position where the aircraft is to be parked. Stop lines will be painted in all hangars for C-17 aircraft.

1.2.5.7. Maintain floor markings for minimum 10-foot hangar door opening distance.

1.2.5.8. Ensure the 62 AW Maintenance Operations Center (MOC) at DSN 382-3336 is notified of inoperative doors and the measures taken to correct the problem. Call in emergency work order requests to 62d Civil Engineer Squadron (62 CES) work order desk at DSN 382-5739.

1.2.5.9. Hangar doors are to be locked out only by personnel qualified and certified under the requirements of AFOSHSTD 91-501.

1.2.6. In case of a power failure, electrically operated hangar doors will only be disengaged and operated by qualified 62 CES personnel, properly trained facility managers, and Aircraft Maintenance Squadron/Maintenance Squadron (AMXS/MXS) production superintendents. Manual operation by unqualified personnel may result in hangar doors falling from door tracks.

1.3. Hangar Door Status Reporting. Hangar door discrepancies, repair status, and get-well date of inoperable door systems will be tracked by facility managers and up channeled to the group facility managers. This information will be briefed by 62 CES monthly to the 62 MXG/CC and 62 AW/CC.

1.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 2

FUELS SYSTEM MAINTENANCE SAFETY PROGRAM

2.1. Introduction. This chapter establishes responsibilities and procedures for maintaining a viable Fuel Systems Maintenance Safety Program. This instruction is applicable to all activities and personnel under the jurisdiction of the 62d/446th Airlift Wing (62/446 AW). This instruction is consistent with Air Force Occupational Safety and Health (AFOSH) Standard 48-137, *Respiratory Protection Program*, and Technical Order (TO) 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*. OPR for this chapter is 62 MXS/MXMCF (DSN 382-3237/2015/5242/Commercial 253-982-3237/2015/5242)

2.2. Responsibilities. Squadron commanders and supervisors at all levels will ensure compliance with this instruction.

2.3. Procedures.

2.3.1. The 62d Maintenance Group Commander (62 MXG/CC), in conjunction with the 62d Medical Squadron Bioenvironmental Engineering (62 MDS/SGPB), 62 AW Ground Safety (SEG) Officer, and 62d Civil Engineering Squadron Fire Protection Flight (62 CES/CEF) will approve the master entry permit for fuel tank entry and review it annually.

2.3.2. 62 MXS/CC will:

2.3.2.1. Ensure the fuel systems section has a field entry permit anytime in-tank maintenance is being performed.

2.3.2.2. Ensure appropriate fuel systems maintenance safety indoctrination training (AFOSH briefing) is provided to all newly assigned personnel in the Fuel Systems, Metals Technology, and Structural Repair Sections.

2.3.2.3. Ensure a viable respiratory protection program, approved by the 62 MDS/SGPB, is maintained by the sections listed above.

2.3.2.4. Ensure the 62d Maintenance Squadron (62 MXS) fuel systems safety test is administered annually to all 62/446 MXS sections that perform in-tank maintenance and document completed training in G081, Core Automated Maintenance System (CAMS) for Mobility.

2.3.2.5. Ensure only qualified personnel (physical, respirator, cardiopulmonary resuscitation (CPR), and appropriate on-the-job training are completed) are allowed to perform in-tank maintenance.

2.3.3. 62/446 MXS Fuel System Section (62 MXS/MXMCF) will:

2.3.3.1. Maintain a current approved master entry permit for fuel tank entry.

2.3.3.2. Have a current field entry permit anytime in-tank maintenance is being performed.

2.3.3.3. Maintain emergency evacuation procedures (Attachment 11) and a fuel systems safety briefing (Attachment 12) which defines the roles of the evacuation team and responding agencies (Attachment 13) in the fuel dock or outside repair area where maintenance is to be performed.

2.3.3.4. Ensure above-listed briefings are conducted by fuel systems supervisory personnel prior to maintenance being performed by anyone other than fuel systems personnel.

2.3.3.5. Ensure all fuel systems maintenance equipment (respirators, combustible gas detectors, breathing air, etc.) are inspected and maintained in serviceable condition. When equipment is determined to be unserviceable, it will be taken out of service and scheduled for repair.

2.3.3.6. Ensure a qualified fuel systems individual is at the tank access to perform duty as an attendant when in-tank maintenance is being performed.

2.3.3.7. Ensure all fuel systems personnel are qualified in CPR and self-aid buddy care, are respirator-certified, and medically cleared to perform required tasks.

2.3.3.8. Ensure emergency phones are checked daily.

2.3.4. 62 MXS Safety Manager will:

2.3.4.1. Coordinate an annual evacuation exercise with all responding agencies.

2.3.4.2. Maintain records or critiques of evacuation exercises and distribute messages as necessary.

2.3.5. 62 MXS Fabrication Flight (62 MXS/MXMF) will:

2.3.5.1. Maintain and provide 62 MXS/ MXMCF with a current listing of in-tank qualified personnel.

2.3.5.2. Ensure all personnel required to perform in-tank maintenance meet the requirements of an entrant in Chapter 1 of TO 1-1-3.

2.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 3

CONFINED SPACES PROGRAM

3.1. Introduction. This chapter defines the Confined Spaces Program and is applicable to all units and personnel assigned or attached to the 62d and 446th Maintenance Groups (62/446 MXG). OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

3.2. Procedures.

3.2.1. Each squadron with personnel requiring entry into a permit-required confined space on a regular basis will implement a confined space program utilizing a Master Entry Plan (MEP) and Training Program in accordance with (IAW) Air Force Occupational Safety and Health (AFOSH) Standard 91-25, *Confined Spaces*. The MEP must:

3.2.1.1. Be reviewed annually and forwarded to 62d Airlift Wing Safety (62 AW/SEG), Bioenvironmental Engineering (62 MDS/SGPB) and the Fire Department (62 CES/CEF) for approval.

3.2.1.2. Identify all trained individuals authorized to perform as an entry supervisor, entrant or attendant. If an Organizational Rescue Team is required, trained members will also be identified.

3.2.1.3. Document atmospheric monitoring, if required by the MEP, on McChord AFB IMT 604 or equivalent (i.e., the Confined Space Field Permit used in 62 MXS/MXMCF). The McChord AFB IMT 604 must be kept on file for one year and be available to 62 AW/SEG, 62 MDS/SGPB and 62 CES/CEF personnel.

3.2.2. Reclassification of a confined space is mandatory and a new confined space entry permit (CSEP), McChord AFB IMT 604 or equivalent, must be routed through 62 AW/SEG, 62 CES/CEF and 62 MDS/SGPB for approval whenever:

3.2.2.1. Conditions develop that are not consistent with the MEP.

3.2.2.2. A chemical is introduced into a confined space or when performing work not identified in the MEP or CSEP. An atmospheric test must be completed to avoid a potential asphyxiation when performing work that creates dust (sanding) or toxic byproducts.

3.2.3. Entry into a known immediately dangerous to life and health (IDLH) area is not allowed except in cases of EXTREME EMERGENCY, such as rescue efforts or emergency repairs.

3.2.3.1. Do not enter an IDLH area unless the required precautionary measures and protective equipment are utilized (AFOSH Standard 91-25, chapter 6, section 6.3).

3.2.3.2. Personnel entering a known or estimated IDLH condition will wear positive pressure, self-contained breathing apparatus and an extraction harness.

3.2.3.3. Ground safety officials and rescue personnel will be available on scene for all IDLH entry conditions.

3.2.4. Safe atmospheric conditions are listed in Figure 1. Acceptable conditions must be verified prior to entry into all permit-required spaces. Test all confined space areas from the

outside. Terminate the entry permit and notify the entry supervisor if an IDLH condition exists.

Table 3.1. Safe Atmosphere conditions.

SAFE ATMOSPHERE CONDITIONS		
Order of Testing	Immediately Dangerous to Life or Health (IDLH)	Safe Atmosphere
OXYGEN	Below 19.5% or above 23.5%	19.5% to 23.5%
FLAMMABILITY (combustible gas indicators)	Greater than 10% Lower Explosive Limit (LEL)	Less than or equal to 10%
TOXICITY (When suspected or present)	Hazardous materials over the occupational exposure limit (OEL); see AFOSH Standard 48-8, *Controlling Exposures to Hazardous Materials,* for further guidance.	

3.2.5. The following are identified as confined spaces within the 62 MXG:

Table 3.2. Confined Space.

Confined Spaces	Unit	Permit	Entry Procedures
Liquid storage tanks, wash facility, bldg 1178	MOS	YES	No entry or maintenance requirements exist
Fluid storage tanks of Deicer vehicles	AMXS, MXS	YES	No entry or maintenance requirements exist
Aircraft Fuel Tanks	MXS	YES	IAW 62/446 MXS/MXMCF Master Permit
Center Wing Dry Bay C-17A	MXS	YES*	IAW 62/446 MXS/MXMCF Master Permit *Classify as "non-permit" after atmosphere test confirms no IDLH condition exists
C-17A Vertical & Horizontal Stabilizer Area	AMXS, MXS, MOS, FTD	NO	IAW TO 1C-17A-2-00JG-00-1, *Organizational Maintenance Job Guide*
C-17A Underfloor Maintenance Tunnel Access	AMXS, MXS, MOS, FTD	NO**	IAW TO 1C-17A-2-00JG-00-1 **Classify as "permit" required if TO entry procedures can't be accomplished
C-17A Cargo Ramp Maintenance Tunnel	AMXS, MXS, MOS, FTD	NO	IAW TO 1C-17A-2-00JG-00-1

3.3. Responsibilities.

3.3.1. As a minimum, the entry supervisor will:

3.3.1.1. Ensure the Fire Department or rescue team is notified prior to any entry into a permit-required space.

3.3.1.2. Ensure a minimum of two people are assigned to permit-required spaces; the entrant and a safety attendant stationed directly outside the space.

3.3.1.3. Ensure McChord AFB IMT 604 is filled out and readily available for all permit-required confined space entries.

3.3.1.4. Brief workers on specific confined space hazards and safety steps to follow.

3.3.1.5. Re-accomplish the safety briefing and permit-required signatures when the designated supervisor, entrant, or attendant changes.

3.3.1.6. Ensure compliance with operating MEP and AFOSH Standard 91-25.

3.3.2. The entrant and the attendant will:

3.3.2.1. Ensure a means for summoning rescue is immediately available and operable (i.e., telephone or radio).

3.3.2.2. Follow AFOSH Standard 91-25.

3.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 4

WARNING TAGS & CIRCUIT BREAKER COLLARS

4.1. Introduction. This chapter establishes additional local guidance outside of AFI 21-101, TO 00-20-1 and applicable MAJCOM supplement(s) for the use of circuit breaker collars and the AF Form 1492, Warning Tag. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

4.2. Responsibilities. Maintenance Group **s**quadron commanders, superintendents, and supervisors at all levels are responsible for ensuring compliance with this chapter.

4.3. General. As applicable, a circuit breaker collar or an AF Form 1492 readily identifies a temporary unsafe condition or system that, if operated, could result in injury to personnel and/or damage to equipment.

4.4. Flight Line Procedures. Unless otherwise specified in this chapter, complete all warning tag or circuit breaker collar documentation IAW AFI 21-101 and/or TO 00-20-1 (and applicable MAJCOM supplements). See Attachments 14 and 17.

4.4.1. Circuit breaker collars are the preferred method of locking out circuit breakers. In such cases, perform the following:

4.4.1.1. In the discrepancy block, annotate the number of collars and/or warning tags installed by task number followed by an applicable warning note (written or underlined in red). For example, "3 C/B collars installed IAW S/S/SN 07-12-01-1 NOTE: Do not apply power to galley - fire hazard", "NOTE: Fuel lines disconnected - Do not apply electrical power" or "NOTE: T/S or R2 in progress – Do not reset". Itemization and location of collars/tags is no longer required since this information is clarified in the S/S/SN. See Attachment 14 Block 1.

4.4.1.2. DELETED

4.4.1.3. Circuit breaker collars and/or warning tags may be documented in the original (warranting) discrepancy as long as the original discrepancy is a red "X". If documented separately, use the - See Pg ____ Item ____ format for both original and collar/tag discrepancies. Additionally, use the same JCN (no WES/WCE) as the original (or warranting) discrepancy. See Attachment 14 Blocks 2 and 3.

4.4.1.4. When circuit breaker collars and/or warning tags are removed, annotate the number of tags/collars removed in the corrective action block with the applicable S/S/SN and line through the warning note. When warning tags/collars are written up as separate discrepancies only the inspected by block is required to be signed. See Attachment 14 Block 3.

4.4.1.5. DELETED

4.4.2. DELETED

4.4.3. If a warning tag is used, PART A will be attached to the aircraft so that it will be visible to personnel attempting to operate the affected system. PART B will be attached to the aircraft forms binder ring aligned with the discrepancy listing the tag(s).

4.4.4. Prior to removal, technicians will ensure the condition that warranted the tag or collar has been corrected by physically verifying the warranting discrepancy has been cleared. Remove both parts of the tag from the forms and aircraft and clear the warning tag or collar discrepancy IAW TO AFI 21-101 and/or TO 00-20-1 (and applicable MAJCOM supplements).

4.4.4.1. When the system is to be reactivated the discrepancy will be upgraded to a red "X" prior to repair actions.

4.5. C-17A paperless HSC procedures. All warning tags or circuit breaker collars associated with the four HSC packages will be numbered chronologically beginning with 001 and stored in a separate warning tag book. Each shop involved in the HSC will maintain a separate warning tag book for their respective portion of the HSC. The book will remain with the dock controller for the duration of the HSC or until all tags and/or collars are removed from the aircraft. One discrepancy will be entered in G081, to cover the entire warning tag/collar book for each shop. The discrepancy will read as follows: "(SHOP) warning tag/collar book # 000 XXX used for this HSC" and the symbol will be a Red "X." To easily track warning tags & circuit breaker collars, transparent envelopes containing PART B (if applicable) will be maintained in the book. When the aircraft is released from HSC, all tags & collars will be accounted for and cleared. If an unsafe condition still exists, a new warning tag or collar will be installed and entered in the aircraft forms IAW AFI 21-101 and/or TO 00-20-1 (and applicable MAJCOM supplements). The HSC controller will ensure all forms documentation is completed.

4.5.1. For accountability and control purposes, warning tag/circuit breaker collar books are only authorized for aircraft undergoing HSC or hard point inspections. All warning tag/collar books will be maintained by the dock coordinator for accountability and control.

4.5.2. All additional warning tags required for HSC component removals, additional inspection requirements or any other conditions requiring a warning tag will be placed in the HSC shop warning tag book as outlined in paragraph 4.4 and kept at the dock coordinator desk.

4.5.2.1. Technicians will ensure that additional warning tags/collars are annotated in G081. Example: LEFT AFT NAV LIGHT INOP. 2 C/B COLLARS INSTALLED IAW S/S/SN XX-XX-XX. Corrective action example: R2 LIGHT. COLLARS REMOVED/RESET CBS. OPS CK GOOD.

4.6. Procedures to follow when more than one work center needs to tag the same system. When the same aircraft system is required to be locked out by more than one work center, ensure an additional warning tag entry is annotated for the same system IAW paragraphs 3 and 4 of this chapter. The additional warning tag(s) Part A will be attached to the effected system circuit breaker or component and additional Part B for each warning tag(s) with the aircraft AFTO Form 781A along with an additional corresponding 781A entry. When maintenance is complete, follow paragraph 3 of this instruction for removal procedures. However, do not reset system circuit breaker(s), components, or return the system to normal until all additional maintenance has been completed on the system and all warning tag(s) have been removed.

4.7. Other mishap prevention signs and tags. The usage and documentation of other types of mishap prevention signs are outlined in AFOSHSTD 91-501.

4.8. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 5

AIRCRAFT MAINTENANCE SAFETY PROGRAM

5.1. Introduction. This chapter outlines the elements of McChord AFB's Aircraft Maintenance Safety Program (AMSP). OPR for this chapter is MXG MRM/AFSO 21 (DSN 382-6115)

5.1.1. Background. The introduction of Maintenance Resource Management (MRM) to the Air Force has greatly improved awareness of the specific nature of aircraft maintenance safety. However, without an active program to support and ensure implementation of the knowledge provided during MRM training, the training is orphaned, hampering the realization of the full intended benefits. Implementation of an AMSP within MXG becomes the next logical step, incorporating MRM training and taking its concepts from the classroom to the flight line.

5.1.2. Goal. The primary goal of the AMSP is to reduce mishaps representing a risk to aviation personnel and resources through a focus on safety in aircraft maintenance activities. As part of supporting the USAF's Mishap Prevention Program and IAW AFI 91-202, *The US Air Force MISHAP Prevention Program* , Chap 7 *Flight Safety*, the AMSP also ensures the integration of all flight line maintenance activities into 62 AW's Flight Safety Program.

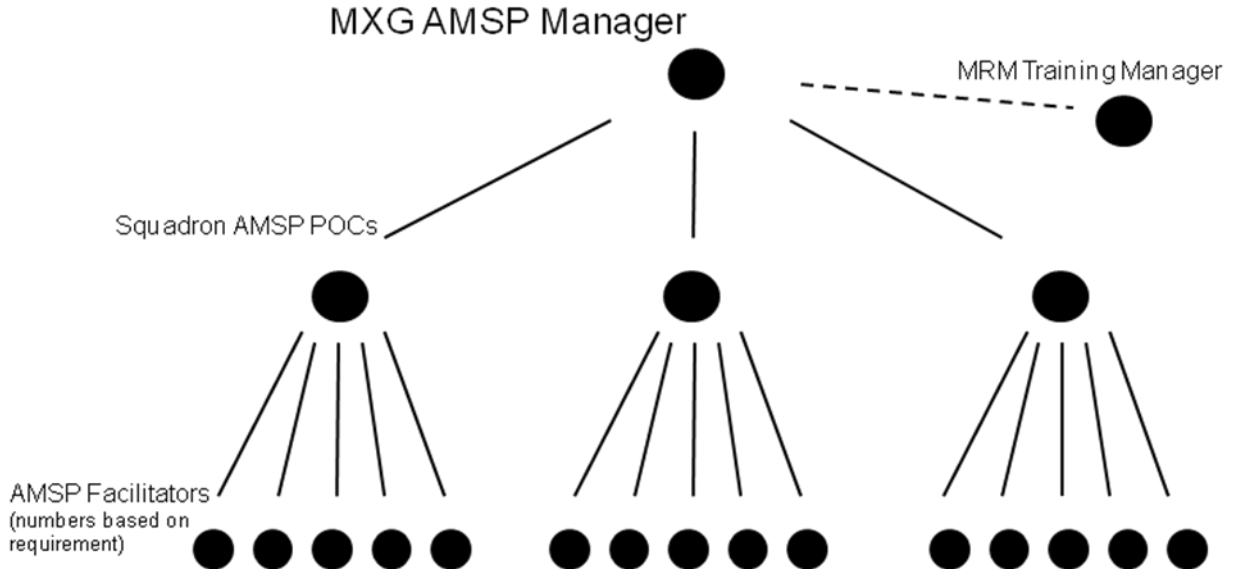
5.1.3. Strategic Alignment. An important premise of the AMSP is the recognition that the inherent risks and related consequences associated with supporting flying operations warrant an enhanced focus. As part of the AFI 91-202 requirement for alignment/integration with flight safety and to ensure the commensurate level of focus and attention within the aircraft maintenance community, the AMSP seeks to focus on bridging the gap with flight safety while actively drawing a distinction from the vast arena of general safety.

5.2. AMSP Framework. The AMSP is supported by three key components: training, promotion and program tools. Together, these components aim to create a safe environment focused on prevention and preventative measures.

Figure 5.1. AMSP Framework.

5.3. Program Responsibilities.

Figure 5.2. AMSP Management Structure.



5.3.1. 62/446 MXG Commanders (CCs) will:

5.3.1.1. As the approval authority for the Aircraft Maintenance Safety Program, lead the maintenance effort instituting the AMSP by fostering the environment required for an effective safety culture and play an active role in promotion related activities outlined in the Promotion section of this chapter.

5.3.1.2. Ensure all squadrons implement the AMSP as outlined in this chapter.

5.3.1.3. Provide resources including facilities to implement the AMSP.

5.3.2. MXG AMSP Manager will:

5.3.2.1. Serve as day-to-day program manager, AMSP Subject Matter Expert (SME), acting as focal point between the MXG, 62d/446th Airlift Wings (AW), Air Mobility Command (AMC) and Air Force Reserve Command (AFRC), on AMSP matters, actively pursuing program improvement including establishing communication channels/information flow from worldwide sources of aircraft maintenance safety information. Particular attention shall be paid to maintaining close ties with wing Flight Safety on aircraft maintenance safety issues, ensuring information exchange and program integration as per AFI 91-202.

5.3.2.2. Implement AMSP response procedures on mishaps and process problems utilizing the Safety Trend Analysis Tool (STAT) as described in the Analysis section of this chapter, implementing appropriate preventative measures with the assistance of MXG leadership.

5.3.2.3. Act as primary POC for MXG STAT related matters, including maintenance and upkeep of the STAT database.

5.3.2.4. Track all events/mishaps entered into the STAT and review for data integrity/consistency.

5.3.2.5. Review preventative measures for applicability and adequacy.

5.3.2.6. Regularly analyze and present relevant STAT data to leadership.

5.3.2.7. Ensure that info on preventative measures implemented as well as other important event related information is passed to the individual(s) who proposed them to impress the importance and value of participation in the program. Record all feedback provided.

5.3.2.8. Work with the MRM Training Manager to ensure training adequately supports the AMSP and affords adequate weight to problem areas identified by the STAT.

5.3.2.9. Work with leadership and Squadron AMSP POCs to ensure sufficient AMSP Facilitators are appointed, trained and distributed throughout the shifts.

5.3.2.10. Champion AMSP Promotion elements described in this chapter, seeking MXG leadership support as required.

5.3.2.11. Develop and maintain the master copy of an AMSP STAT Reference Book which is to provide amplifying details of the STAT related processes, database access, qualified facilitators and other related reference material required for the management of STAT entries. Ensure updated copies are maintained by each POC for easy access by Facilitators.

5.3.3. Squadron Commanders will:

5.3.3.1. Support the AMSP within their unit, including appointing appropriate level primary and alternate POCs to oversee AMSP implementation/day-to-day operations within their squadron. POCs should be the same as the existing Squadron Safety Representatives.

5.3.3.2. Appoint a series of AMSP Facilitators. Units should have at least one Facilitator present on every shift or have made alternate arrangements. Facilitators should be appropriately trained Sabre 3, Mike 2, Pro-Supers, and Element Chiefs.

5.3.3.3. Support the AMSP by playing an active role in promotion related activities outlined in the Promotion section of this chapter.

5.3.3.4. Ensure personnel with direct involvement in maintenance activities are trained to the appropriate level as per the Training section of this chapter.

5.3.3.5. Ensure personnel implement AMSP principles during day-to-day maintenance operations.

5.3.4. Squadron AMSP POCs will:

5.3.4.1. Serve as the focal point for all AMSP matters within their unit, liaising directly with the MXG AMSP Manager to obtain and provide related support.

5.3.4.2. Implement AMSP response procedures on mishaps and process problems utilizing the STAT as described in the Program Tools section of this chapter.

5.3.4.3. Support the MXG AMSP Program Manager and work with the Facilitators to take action on AMSP issues including addressing STAT data input integrity issues as well as assessing, investigating and addressing recommendations from STAT entries related to their squadron.

5.3.4.4. Help promote the AMSP throughout their squadrons, participating in efforts outlined in the Training and Promotion Sections of this Chapter and ensuring leadership is involved. Specifically, actively look for opportunities to pass on AMSP information, advising their respective CCs of such opportunities and organizing/providing related briefings to their unit personnel. Hold discussion forums on aircraft maintenance safety with working level personnel as per para 5.4.1.5.

5.3.4.5. Help coordinate STAT related activities as outlined in the Program Tools section.

5.3.4.6. Coordinate the dissemination of routine and urgent AMSP related information within their units, including holding meetings with Squadron AMSP Facilitators as required.

5.3.4.7. Work with squadron leadership to ensure sufficient AMSP Facilitators are appointed and trained. Ensure that the unit has at least one available on every shift or have made alternate arrangements.

5.3.4.8. Keep up to date on AMSP related issues.

5.3.4.9. Publicize and support procedures to submit anonymous STAT forms.

5.3.4.10. Ensure upkeep/updates to local copies of the AMSP STAT Reference Books and easy access for Facilitators.

5.3.5. AMSP Facilitators will:

5.3.5.1. Act as Squadron STAT input Subject Matter Experts (SMEs).

5.3.5.2. Act as STAT completion POCs following an event (ensure timeliness and strive for data accuracy.

5.3.5.3. Ensure the identity of individuals submitting anonymous STAT information on an observed safety concern remains within the Safety Program.

5.3.5.4. Assist their applicable Unit AMSP POC and the MXG AMSP Manager in promotion, dissemination and execution of the AMSP including holding discussion forums on aircraft maintenance safety with working level personnel as per para 5.4.1.5.

5.3.6. All MXG Personnel will:

5.3.6.1. Support the AMSP by adopting a safety conscious approach to daily work activities and creating an atmosphere that encourages and rewards safe practices and honest reporting of events amongst their peers and subordinates.

5.3.6.2. Be forthcoming with safety event related information to ensure data integrity and effective preventative measures.

5.3.6.3. Report all safety hazards immediately and all close calls promptly.

5.3.6.4. Get involved! Treat safety as integral to their military responsibilities.

5.4. The Program Components.

Figure 5.3. AMSP Program Components.

5.4.1. Training. As the fundamental building block of the program, training provides enhanced awareness of aircraft safety and related resources available to ensure all those involved in aircraft maintenance are able not only to perform their work safely but also to contribute to the overall enhancement of aircraft maintenance safety. The primary component of AMSP Training is Maintenance Resource Management (MRM) Training. This training is supplemented by specialty training for personnel involved in managing the AMSP. Recurring briefings such as Wing Flight Safety Briefings, which review Flight Safety Mishaps, other opportunity briefings (i.e. at Commanders' calls, roll calls, etc…), AMSP Discussion Forums and a variety of aircraft maintenance safety information further supplement the primary training.

5.4.1.1. Maintenance Resource Management (MRM) Training

5.4.1.1.1. General. MRM is supported by AFI 21-101, *Aircraft and Equipment Maintenance Management*, AMCSUP1, Chap 2, Safety, and is intended to foster safety focus within the maintenance community. By training on how error reduction efforts through analysis can improve processes, MRM training works to reduce maintenance errors, decrease maintenance-induced damage, and decrease on-the-job-injuries. MRM Training teaches how to integrate the technical skills of maintenance personnel with interpersonal skills and basic human factors knowledge along with operational risk management in order to improve communication, effectiveness, and safety in maintenance operations.

5.4.1.1.2. MRM Training Objectives:

5.4.1.1.2.1. Overall Objectives. Using *Federal Aviation Administration Advisory Circular (AC) 120-72, Maintenance Resource Management Training*, as basic guidance, in conjunction with the local wing safety, flight safety, Union, and the medical squadron, provides the required formal training to support the AMSP, prevent mishaps, mitigate and reduce maintenance errors, decrease maintenance-induced damage, decrease on-the-job injuries, and devise improvement strategies while increasing the mission capable rate.

5.4.1.1.2.2. Specific objectives for the training include:

5.4.1.1.2.2.1. Recognizing and identifying human factors elements.

5.4.1.1.2.2.2. Understanding human error and recognizing contributing causes.

5.4.1.1.2.2.3. Identifying the chain of events in an accident.

5.4.1.1.2.2.4. Developing safety nets or "link busters."

5.4.1.1.2.2.5. Identifying and recognizing norms.

5.4.1.1.2.2.6. Awareness of individuals' differences and behavioral styles.

5.4.1.1.2.2.7. Developing effective communication skills.

5.4.1.1.2.2.8. Providing general knowledge of the AMSP.

5.4.1.1.2.2.9. Providing a working knowledge of the STAT.

5.4.1.1.3. MRM Training Responsibilities.

5.4.1.1.3.1. MRM Training Manager will**:**

5.4.1.1.3.1.1. Oversee the development and upkeep of MRM and Specialty Training, working closely with the MXG AMSP Manager to ensure training demand is met for general MXG personnel, Squadron POCs and Facilitators. Ensure course content is up to date based on the latest STAT, other relevant program information and aircraft maintenance safety information actively sought from various sources.

5.4.1.1.3.1.2. Integrate Operational Risk Management (ORM) into MRM training and principles.

5.4.1.1.3.1.3. Ensure adequate numbers of instructors are trained to conduct initial and recurring training.

5.4.1.1.3.2. MOS/MXOT (Training Flight) will:

5.4.1.1.3.2.1. In coordination with the MRM Training Manager, schedule and track all initial and recurring MRM training for general MXG personnel, Squadron POCs and Facilitators.

5.4.1.1.3.2.2. Assist the MRM Training Manager with management and creation of course control documents, media, and testing material to include ensuring all material meets Instructional Systems Design (ISD) requirements.

5.4.1.1.4. MRM Training Details.

5.4.1.1.4.1. Purpose. As an integral part of the AMSP, MRM Training is designed to focus culture and philosophy on the importance, requirements, and implementation of aircraft maintenance safety principles in daily activities. It does not qualify an individual to perform specific tasks.

5.4.1.1.4.2. Scope. All 62 MXG maintenance personnel will complete MRM training relevant to their duty position and rank within 6 months of being assigned to McChord AFB. MRM training from another base with an authorized MRM Program may be approved as credit with the MRM Training Manager's approval

and supplemental information about the AMSP and STAT. 446 MXG will follow AFRC A-4 guidance on frequency of training.

5.4.1.1.4.3. Initial training consists of a 2-day class taught by the MRM Training Manager, approved Air Force instructors, or industry experts and completing an end-of-course examination with a passing score of 80% corrected to 100%. Trending of class average will be accomplished by the MRM Training Manager and reported quarterly.

5.4.1.1.4.4. Biennial recurring training will consist of a 1-day class taught by the MRM Training Manager, qualified Air Force personnel who have been certified to instruct by the MRM Training Manager or industry experts. In addition to an overview of the AMSP, this course will provide reinforcement of basic ORM principles, provide a means to update all personnel on new MRM information and industry standards, and provide a means to share and cross flow success and problems encountered over the past two years between all levels of personnel.

5.4.1.1.4.5. Personnel assigned to McChord AFB attending this course will be considered TDY for the duration of the course and be relieved of home-station responsibilities.

5.4.1.1.4.6. Documents Produced/Maintained: Registration information, feedback, and test sheets will be maintained for one year following class completion. Student study guides will be provided to all attendees and will be updated to reflect current Air Force and industry information. Course plans of instruction will be maintained.

5.4.1.1.4.7. All course material will have an annual validation and recertification approved by the MXG/CC or designate.

5.4.1.1.4.8. The course shall include an overview of the AMSP with special focus on Program Tools and provide for flexibility to emphasize areas of concern identified by STAT trend data.

5.4.1.1.5. **MRM Implementation Tools:**

5.4.1.1.5.1. Purpose. MRM implementation tools are provided for self-prevention, mitigation, and prevention of maintenance errors. These tools will be utilized to reduce maintenance errors, decrease maintenance-induced damage, and decrease on-the-job injuries.

5.4.1.1.5.2. The TKC (Think Ahead, Know the Risks, Choose to be Safe) Card (Attachment 18) is a tool designed to provide a fast and effective reference document to quickly and efficiently assess potentially hazardous tasks and ensure that the technician involved understands the risks associated and can mitigate them.

5.4.1.1.5.3. This card **DOES NOT AUTHORIZE** deviation from technical data. Rather, it allows a technician(s) qualified on the task, but who may not be completely proficient or experienced, to review the risk factors associated with the task and determine if it is appropriate to proceed.

5.4.1.1.5.4. Maintenance personnel who are involved in complex or potentially

hazardous tasks, where inexperience may be a concern, will conduct an assessment of the task and concur to GO or NO-GO. If conditions exists which are a NO-GO condition, the maintenance personnel will immediately inform the on-duty supervision and request mitigation of the hazard.

5.4.1.1.5.5. The "Knock It Off" card (Attachment 19) is designed for **ALL** personnel to have a visual cue in the event that a hazardous or nonstandard condition exists where **ANY** person feels unsafe, is unsure of how to proceed, or identifies a potential hazard to life, limb, or equipment.

5.4.1.1.5.6. The term "Knock It Off" is the common assertive statement for all MXG personnel to stop any action in order to address concerns or assess potential hazards.

5.4.1.1.5.7. The back side of the "Knock It Off" card contains a generic pre-task briefing. It provides valuable information to maintenance team members prior to starting a maintenance task. If no pre-task briefing is provided in the technical order or job guide, all members will review this prior to starting any task.

5.4.1.1.5.8. Any time any member of our organization witnesses a potentially unsafe situation during their maintenance activity, they will call a "Knock It Off" by addressing the senior maintenance person(s) present and saying "Knock It Off."

5.4.1.1.5.8.1. "Knock It Off" will:

5.4.1.1.5.8.2. Provide a clear warning sign of a deviation from technical data or a potential safety concern(s).

5.4.1.1.5.8.3. Provide an opportunity to break the error chain before the mishap occurs.

5.4.1.1.5.8.4. Notify all maintenance team members that someone sees the maintenance team departing from established guidelines, technical data, or that someone is simply uncomfortable with the developing situation.

5.4.1.1.5.8.4.1. Upon calling a "Knock It Off" members will:

5.4.1.1.5.8.4.2. Safety permitting stop all activities in question.

5.4.1.1.5.8.4.3. Listen to the initiating maintenance team member voice his or her concern(s).

5.4.1.1.5.8.4.4. Be provided an opportunity by the senior maintenance person present to voice their inputs relative to the stated concern(s).

5.4.1.1.5.8.4.5. After evaluating all inputs, continue the current course of action or have the senior maintenance member direct a new course of action.

5.4.1.1.5.8.4.6. The senior maintenance team member present is the final on-scene decision-making authority; however, if any member of the team believes that their concerns were not properly addressed, that member MUST pursue their concern using the chain of command. There will be NO concern for reprisal or punishment. Commanders at all levels will

investigate any alleged reprisal and take appropriate corrective action when necessary.

5.4.1.2. Specialty Training

5.4.1.2.1. General. Specialty training will supplement basic MRM training. Provided based on demand, it shall provide the MXG AMSP Manager, Squadron POCs and Facilitators with more in-depth aircraft/flight safety related training as well as standardized STAT specific content expertise to maximize data integrity. Some of this training, such as STAT use and content, can be taught in house using MRM resources while AMC, Air Force and commercial sources shall be explored to cover the more generic areas.

5.4.1.2.2. Specialty Training content shall include but not be limited to the following:

5.4.1.2.2.1. Effective management of aviation safety programs.

5.4.1.2.2.2. Specific responsibilities associated with each position (MXG AMSP Manager, Squadron POCs, and Facilitators).

5.4.1.2.2.3. AMSP Tools with specific emphasis on functionality of the STAT database, intent of each field, review of previously inputted data, etc.

5.4.1.3. Participation of Maintenance Personnel at Flight Safety Briefings

5.4.1.3.1. General. As per AFI 91-202 Chapter 7, *Flight Safety*, like the flight crews, all flight line maintenance personnel should be briefed on aircraft mishaps. As part of the AMSP, this is extended to all MXG personnel.

5.4.1.3.2. Flight Safety Briefings are regularly scheduled events which provide a review of recent flight safety accidents/incidents to improve awareness. These events serve as an important reminder of the inherent risks and consequences associated with flight operations and the need for constant vigilance and attention to detail by all personnel involved in operating or supporting flying operations. Even though some of the content may not directly involve maintenance, these briefings foster better overall awareness and impress the one team one fight concept as it relates to safety. Participation at these briefings by all available MXG personnel shall be the goal, with access to the briefing materials through the Squadron POCs for those unable to attend.

5.4.1.4. Opportunity Briefings

5.4.1.4.1. General. There are recurring opportunities where unit personnel are gathered to pass on information. Each of these opportunities shall be considered as a chance to pass on AMSP type information. For example, Commanders' calls should, whenever possible, include a briefing on recent AMSP safety issues/information. Roll calls can be used to educate personnel on recent AMSP related issues and for quick dissemination of safety information.

5.4.1.5. AMSP Discussion Forums

5.4.1.5.1. General. On a quarterly basis, or in conjunction with appropriate themed events (i.e. safety days), Squadron POCs and/or Facilitators will hold discussion groups on aircraft maintenance safety with working level personnel. Specific themes

or talking points based on past maintenance events, ongoing areas of concern or aviation safety topics can be used to facilitate discussion. Efforts shall be made to get all attendees involved in the discussion and Squadron POCs or Facilitators shall focus their role to keeping the discussion alive. The aim of these discussion groups includes emphasizing importance from the leadership level by scheduling time out to focus on safety, getting the worker level involved in thinking about safety, having personnel provide input on how to improve safety in all aspects of aircraft maintenance safety

5.4.1.6. Aircraft Maintenance Safety Material

5.4.1.6.1. General. There are a variety of sources to obtain aircraft maintenance safety information. Establishing communication channels to these sources is an important part of maintaining an up to date AMSP. This information shall be disseminated by the MXG AMSP Manager through the most expeditious means considering the urgency of the information. Various information sources include but are not limited to civilian aviation authorities (i.e. FAA), other services' air branches, and foreign military air forces.

5.4.2. AMSP Promotion

5.4.2.1. General. The key to a vibrant safety program is ensuring that it becomes part of the unit culture. To facilitate this process, it must be widely communicated, constantly emphasized and supported by all members of the chain of command. As such, all opportunities shall be used to stress the importance of overall aircraft maintenance safety and safe work practices.

5.4.2.2. Safety Focus. Specific efforts shall be made at all levels to target and eliminate behaviors which create an unsafe work atmosphere such as horseplay, unwarranted urgency, distractions, etc. In order to ensure maximum personnel involvement and data integrity, maximum effort shall be made to promote data collected by the STAT as distinct and separate from information gathered for disciplinary purposes and focused on positive performance.

5.4.2.3. AMSP Awards. As an important element of the AMSP the awards portion is intended to provide a wide variety of avenues to stimulate performance and recognize individual or unit achievement. Specific actions taken by personnel to enhance safety or eliminate hazards shall be considered for recognition.

5.4.2.3.1. Individual Awards. Individual awards should be based on the level of achievement and follow an awards progression as follows:

5.4.2.3.1.1. Verbal Compliment from supervisor or commander

5.4.2.3.1.2. Letter of Appreciation from supervisor or commander

5.4.2.3.1.3. Letter of Commendation

5.4.2.3.1.4. Wing Safety Coin Award Program per 62 AWI 91-202

5.4.2.3.1.5. AMC Distinguished Individual Safety Award. Squadrons should submit nominations through channels to 62 AW/SE IAW AFI 36-2833, *Safety Awards.*

5.4.2.3.2. Unit Awards. The 62 AW and AMC Safety Awards programs provide numerous avenues to stimulate performance and recognize unit achievement. Possible unit awards are as follows:

5.4.2.3.2.1. 62 AW Commander's Outstanding Unit Safety Award: This award is established to annually recognize the 62 AW units, which most aggressively implement the mishap prevention program.

5.4.2.3.2.2. Applicable USAF, AMC Unit awards as per AFI 36-2833 and AMCI 36-2805, *Safety Awards Program*.

5.4.2.4. Presentation of Awards/Displaying of Awards. Senior personnel should present awards in a timely manner, with maximum participation and publicity. Presentations should be coordinated with local Public Affairs office whenever possible. Unit awards should be displayed in a central location so that all may share in the achievement.

5.4.3. Program Tools

5.4.3.1. General. The following sections detail tools designed to ensure the effective functioning of the AMSP. These strive to facilitate reporting, dissemination, safety intervention as well as trending and analysis. More importantly, they empower users to address safety concerns and provide leadership with the ability to assess program effectiveness, analyse problem areas and identify specific targets for improvement. The tools encompass the STAT and its related activities.

5.4.3.2. The Safety Trend Analysis Tool (STAT)

5.4.3.2.1. General. The STAT is a database designed to collect safety event related information and preventative measures to enable meaningful trend and analysis data. This is intended to enable leadership to focus on trends and implement preventative measures. The STAT response actions do not replace established AF Safety investigations, but will locally augment existing processes. All actions such as data collection, interviews, etc which may be required under AFI 91-204, *Safety Investigations and Reports*, for specific events are to be conducted in close cooperation with the applicable lead safety investigation agency. As accurate and complete data on all incidents is required to ensure the effectiveness of trend analysis and preventative measures, all information related to these goals should be input into the STAT while complying with information distribution limitations as directed by the lead investigative agency, as applicable.

5.4.3.2.2. All applicable STAT fields shall be completed as part of an event.

5.4.3.2.3. STAT Policy Guidance: The most important consideration when initiating a STAT entry is the evaluation of the *intent* of the individual(s) involved in the event.

5.4.3.2.3.1. When considering intent, it is important to understand that a maintenance error or an incident is the failure of a planned action to achieve a desired goal. All errors involve some form of deviation from the technician's goal. Accidents and mishaps often happen because people lose focus, rush, or make poor risk decisions. Intent can be classified in three categories:

5.4.3.2.3.1.1. Willful Intent: The person knew that their actions would cause a bad outcome.

5.4.3.2.3.1.1.1. Recklessness: The person knew there was an extremely high probability that their actions could cause a bad outcome.

5.4.3.2.3.1.1.2. Unintentional: The person did not know/realize there was a high probability that their actions could cause a bad outcome.

5.4.3.2.4. A STAT shall be completed for all QA events as well as for all aircraft related mishaps, whether damages or injuries occurred (i.e. this includes close calls), unless the event clearly resulted from willful intent, recklessness or enemy action.

5.4.3.2.4.1. QA events determined to have safety implications according to criteria agreed upon between the AMSP Manager and the Lead QA Inspector.

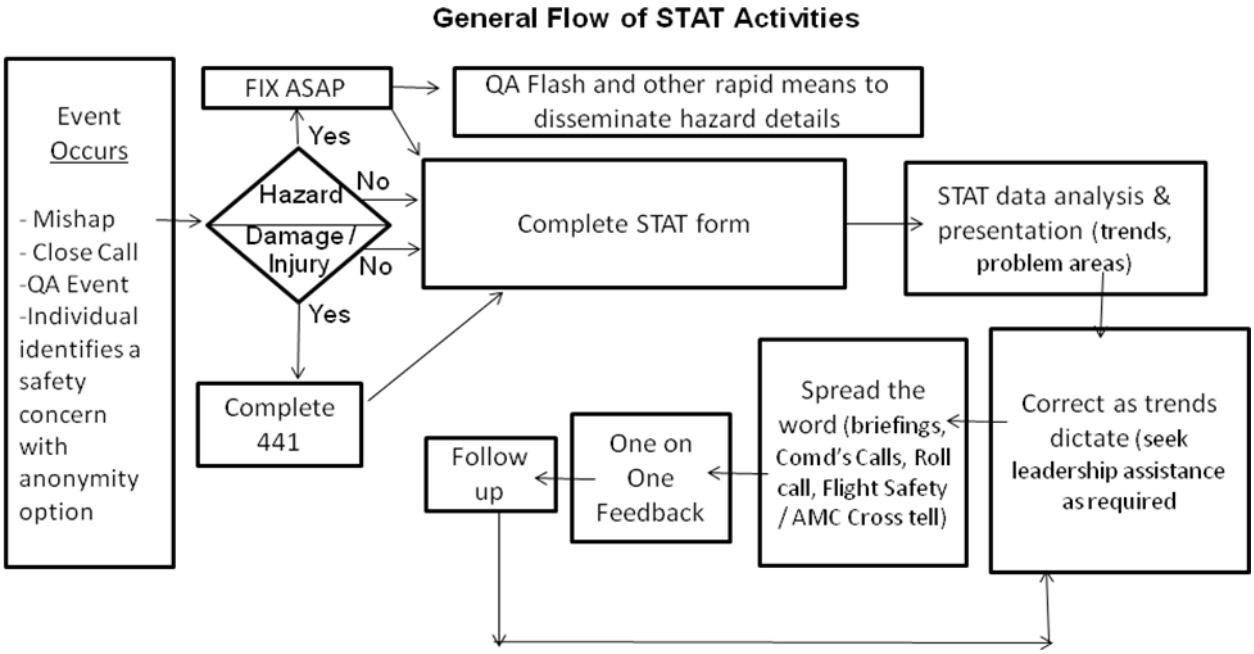
5.4.3.2.4.2. All aircraft related mishaps, whether damages or injuries occurred (i.e. this includes close calls), unless the event clearly resulted from willful intent, recklessness or enemy action.

5.4.3.2.4.3. Upon request by any individual with a safety concern related to the goals of this program (see Safety Concern / Close Call - Anonymous Option section at the end of this chapter for further details).

5.4.3.2.5. If a STAT entry is initiated, and during the course of data gathering, issues come to light that point to purpose and knowledge or recklessness or identify a member as violating UCMJ standards, the matter will be referred back to the appropriate Squadron Commander. As the STAT is not to be used as an investigative tool to support disciplinary actions, a separate information gathering process, not involving AMSP personnel or information is to take place.

5.4.3.2.6. STAT Process

Figure 5.4. STAT Process Flow.



5.4.3.2.6.1. Once an event has occurred and a STAT is to be initiated based on the criteria discussed above, personnel involved in the event shall follow local reporting procedures to ensure that a STAT entry is completed expeditiously.

5.4.3.2.6.2. If the situation includes a hazard or if there is another compelling reason for immediate and wide distribution of the situation, it shall be rectified immediately and a means of rapidly disseminating the information such as a QA Flash shall be completed as soon as possible and distributed as appropriate. Consideration shall be given to posting this information in relevant areas, releasing it at roll calls and passing it on to Wing Flight Safety and/or AMC as applicable.

5.4.3.2.6.3. The data collected shall be analyzed daily by the MXG AMSP Manager and considered for urgent action as required.

5.4.3.2.7. STAT Data Analysis & Presentation

5.4.3.2.7.1. The MXG AMSP Manager shall analyze the data with the aim of identifying trends and key areas where action is required to treat the underlying causes of the events. The MXG AMSP Manager shall develop and present a series of reports drawn from the STAT with a focus on trends and problem areas. The reports shall be designed to provide meaningful information to leadership at regular intervals, such as part of the MSEP briefings, facilitating decision making to address problems. Particular attention shall be paid to preventative measures requiring leadership intervention, action or approval.

5.4.3.2.7.2. The MXG AMSP Manager shall routinely review preventative measures and consider each for adequacy.

5.4.3.2.8. Spreading the Word: Safety awareness requires effective dissemination of the information surrounding safety events as well as the preventative measures. Avenues including, MRM training, Commanders' Calls, roll calls, briefings, shall be utilized to pass the information within MXG. Communication channels through the wing and AMC shall be used to disseminate relevant information.

5.4.3.2.9. Feedback loop: The MXG AMSP Manager shall ensure that feedback on recommendations is passed to the individual(s) who proposed them in accordance with local procedures to impress the importance and value of participation in the program.

5.4.3.2.10. Safety Concern / Close Call - Anonymous Option

5.4.3.2.10.1. A Safety Concern is defined as an existing condition or deficiency having the potential to cause injury or damage. When individuals become aware of such a situation, they may contact the duty AMSP facilitator and complete a STAT entry with the option of remaining anonymous if they so chose. If the individual does not wish to contact a facilitator, a paper version of the STAT will be available allowing for submission to the Squadron AMSP POC or drop off in an amnesty box or other similar facility/process publicized by the squadron or flight.

5.4.3.2.10.2. The same venue can be utilized to report data on un-witnessed close

calls (i.e where the individual involved was the only one present). A Close Call is defined as a mishap with the potential for, but with no actual resultant damage or injury.

5.4.3.2.10.3. In any case, all MXG personnel have the right to bring up a safety concern in the course of their duties without fear of reprisal, whether done directly through the chain of command or through an AMSP representative. Any concern identified to AMSP personnel shall be documented at the MXG AMSP Manager level along with action taken.

5.5. Other Related References. AFIs, AFOSH STD, AWI, and TOs are listed in Attachment 1.

Chapter 6

ELECTRONIC WARFARE SYSTEMS PREPROGRAMMING PROCESS

6.1. Introduction. This chapter assigns responsibilities and procedures for control of reprogramming Electronic Warfare Systems (EWS) of the aircraft assigned to the 62d Airlift Wing (62 AW). OPR for this chapter is 62 MXG/WTQM (DSN 382-2204/Commercial 253-982-2204)

6.2. Responsibilities. Commanders and supervisors at all levels within the maintenance complex are responsible for enforcing compliance with this chapter.

6.3. EWS Reprogramming Process.

6.3.1. Upon receipt of reprogramming message (e.g., SERNE BYTE) and/or time compliance technical order (TCTO) from Headquarters Air Mobility Command, the base Electronic Combat Officer (ECO) will inform the Maintenance Operations Center (MOC) of the reprogramming requirement. The MOC will notify the 62d Aircraft Maintenance Squadron (AMXS) through Saber 3 and the Pro Super(s) who in turn will notify the ranking EWS technicians on shift. The EWS technicians will contact the ECO to obtain the following information: tail number(s) affected, security classification of reprogramming, and priority/time requirements.

6.3.2. Once tail numbers and priority/time requirements are established, EWS technicians in close coordination with the Pro Super and flight line expediter, will set reprogramming priorities by tail number. The current and next-day flying schedule should determine initial reprogramming priorities if more than one aircraft is affected. Other considerations should include aircraft availability, current aircraft flare configuration(s) and location.

6.3.3. Expediters should make every effort possible to ensure active aircraft forms are ready and available to EWS technicians for expedient reprogramming and system operational checks. In addition, other maintenance personnel should be used to the maximum extent possible to assist EWS technicians (e.g., applying external/APU power, aircraft tows, etc.) as most reprogramming tasks are time sensitive.

6.3.4. EWS technicians will coordinate with the Pro Super if flare load configuration changes will occur or other maintenance is affected as a result of the reprogramming and an estimated time for completion..

6.3.5. Once the reprogramming/TCTO is complete, EWS personnel will inform production personnel for coordination with Saber 3, the MOC and the ECO.

6.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 7

C-17A FLARE DEFENSIVE SYSTEM

7.1. Introduction. This chapter establishes specific requirements for the flare defensive system on C-17A aircraft. These systems use Class 1.3 munitions, which require special handling and coordination. These requirements apply to all agencies involved in handling flares or flare-loaded aircraft. The following procedures must be followed to ensure flares are handled safely and expeditiously. Procedures identified in this chapter apply to all individuals, including aircrews, who are actively engaged in the operation, uploading, downloading, and troubleshooting of the Defensive Systems (DS). With the addition of multiple flare load configurations, this chapter will establish minimum load requirements for each configuration and flare type. This chapter complements AFMAN 91-201, *Explosives Safety Standards* and provides local procedures for the requirements found in AFI 21-101. OPR for this chapter is 62 MXG/WTQM (DSN 382-2204/Commercial 253-982-2204)

7.2. General Precautions.

7.2.1. Immediately contact the Maintenance Operations Center (MOC), Fire Department, Explosive Ordnance Disposal (EOD), 62d Aircraft Maintenance Squadron (AMXS), 62d Maintenance Squadron (MXS) Production Superintendents (Mike 2), 62d Maintenance Group Quality Assurance (QA) and 62d Airlift Wing Safety Office in the event of any flare mishap.

7.2.2. Withdraw all nonessential personnel and establish a 600-foot cordon around the aircraft/ flare set until ground emergency has been terminated by the Fire Department or EOD Team.

7.2.3. Do not use Halon, carbon dioxide, or water (Type A, B, or C rated) fire extinguishers on or near fires involving munitions, pyrotechnics, or magnesium incendiaries (flares). Fire extinguishers should only be used for initial knockdown of fires on aircraft and equipment before the involvement of munitions, pyrotechnics, or magnesium incendiaries or to protect adjacent equipment and facilities.

7.2.4. Under no circumstances will load crew personnel attempt to upload or download flares if not qualified to do so and either checklist TO 1C-17A-33-1-2-1CL-1, *Non-nuclear Munitions Loading Procedures AN/ALE-47 Countermeasures Dispense System (IRCM Aircraft)* or checklist TO 1C-17A-33-1-2-2CL-1, *Non-nuclear Munitions Loading Procedures AN/ALE-47 Countermeasures Dispense System (Non-IRCM Aircraft)* is not available. Aircraft forms will be present during flare upload and download operations and properly documented to reflect any DS maintenance activities performed.

7.2.5. To increase DS safety awareness, all aircraft should be treated as if loaded with flares.

7.2.6. Bravo, Charlie, Delta, Echo, Foxtrot, and Joker ramps on McChord AFB are explosive sited for the 1,000 lbs of Hazard Class/Division (HC/D) 1.3 and Mission Essential Quantities of HC/D 1.4 explosives loaded as “Cargo.” Cargo-loaded aircraft require placards with the appropriate HC/D fire symbols and subsidiary risk symbols. Aircraft configured with internally loaded explosive assets for example, Defensive Systems flares, do not require placards on McChord AFB.

7.3. Maintenance Precautions.

7.3.1. Aircraft will not be placed in a hangar with flares loaded.

7.3.2. Aircraft with flares loaded will not be jacked in any manner that would defeat the weight-on wheels safety feature designed to prevent inadvertent discharge; however, axle/integral jacking with flares loaded is permissible in accordance with (IAW) Job Guide TO 1C-17A-2-07JG-10-1, *Jacking and Stabilization Jacking*.

7.4. Munitions Loading Precautions.

7.4.1. Four sets of Hazard Class/Division fire and hazard symbols will be placed around aircraft prior to uploading or downloading flares to prevent other maintainers from entering area while a flare upload or download is in progress. The signs will be placed approximately 25 feet off of the aircraft nose, tail, and each wing tip.

7.4.2. Only one load crew per aircraft is permitted during flare upload and download operations. The load crew will consist of a minimum of two or a maximum of three fully qualified personnel. NOTE: Only the Weapons Task Qualification Training Manager (WTQM) or Weapons Task Qualification Crew (WTQC) personnel may serve as the third member of the load crew for evaluation purposes.

7.4.3. All non-load crew members will remain outside a 50-foot radius from the aircraft during actual flare upload and download operations [Ref: TO 1C-17A-33-1-2-1, *Non-Nuclear Munitions Loading Procedures AN/ALE-47 Countermeasures Dispensing System (IRCM Aircraft),* and TO 1C-17A-33-1-2-2, *Non-Nuclear Munitions Loading Procedures AN/ALE-47 Countermeasures Dispensing System (Non IRCM Aircraft)*].

7.4.4. Personnel who handle flares will not wear static-producing clothing (nylon, wool, rayon, silk, or materials of 100 percent polyester) during flare upload and download operations. NOTE: Gortex may be worn (IAW AFMAN 91-201, paragraph 2.51.2.2.).

7.4.5. Personnel will not position themselves in front of loaded flare dispensers.

7.4.6. Load teams will have immediate access to a radio for use in case of a mishap. WARNING: Do not transmit radios or bring cell phones within 25 feet of flares not installed on the aircraft.

7.4.7. Aircraft flare upload and download operations will cease when lightning is within 5 nautical miles (IAW AFMAN 91-201, paragraph 2.56.2.).

7.5. Flare Loading Standardization. The WTQM assigned to MXG/QA will manage all aspects of flare upload and download training and adherence to established standards for the 62d Airlift Wing. The lead WTQC is assigned to the 62 AMXS. The WTQM may appoint a WTQC per Aircraft Maintenance Unit (AMU).

7.5.1. WTQC personnel will meet the following requirements prior to appointment:

7.5.1.1. Have a minimum of a 5-skill level.

7.5.1.2. Have a minimum rank of SSgt (WTQM may waive to SrA on a case-by-case basis).

7.5.1.3. Certified load crew member on the C-17A aircraft or C-17A LAIRCM aircraft if system is installed.

7.5.2. Maintenance Qualification Training Program (MQTP) instructors will train 62 MXS and 62 AMXS personnel for initial and annual refresher flare load crew member certification.

7.5.3. The WTQM, WTQC, and all load crew members will meet the following training requirements:

7.5.3.1. Initial Training: C-17A flare upload and download certification requires C-17A Familiarization Course, C-17A Flare Loading Academics Course, and C-17A Flare Loading Practical Evaluation. If a LAIRCM-modified aircraft is available as a ground trainer, initial training will also include C-17A LAIRCM Familiarization Course, C-17A LAIRCM Flare Loading Academics Course, and C-17A LAIRCM Flare Loading Practical Evaluation.

7.5.3.2. Personnel trained and qualified to upload and download flares on C-17A LAIRCM aircraft are also qualified on non-LAIRCM C-17A aircraft.

7.5.3.3. Recurring Training:

7.5.3.3.1. All load crew members will accomplish C-17A Flare Loading Refresher Course and C-17A Flare Loading Practical Evaluation or C-17A LAIRCM Flare Loading Refresher Course and C-17A LAIRCM Flare Loading Practical Evaluation annually through MQTP.

7.5.3.3.2. All personnel working on or around DS aircraft will accomplish the Explosive Safety Computer-Based Training Course annually during Block Training.

7.5.4. Initial and refresher training will be documented in G081, Core Automated Maintenance System (CAMS) for Mobility, and on AF IMT 483, Certificate of Competency. Load crew members are required to carry a current AF IMT 483 during any flare upload or download operation they perform (home station or TDY location). The WTQM, WTQC, or other authorized personnel may request load crew members to produce AF IMT 483 during any flare upload and download operation.

7.6. Scheduling Flare-Loaded Missions and Locals.

7.6.1. The 62d Maintenance Operation Squadron's Plans, Scheduling, and Documentation Section (62 MOS/MXOOS) will annotate what aircraft require flare uploads and the flare configuration needed for that mission on the daily flying schedule. They will also provide Munitions Control (62 MXS/MXMW) with a daily flying schedule and identify if the flare loads listed are for operational or training use. NOTE: Expenditure of operational flares for training or other than real-world mission taskings is unauthorized without prior coordination and approval of the 62 MXS/MXMW, Munitions Accountable Systems Officer (MASO) or designated representative.

7.6.2. AMXS Production Superintendent will notify 62 MXS Production Supervision (MIKE 2) and/or MOC at least 1 hour prior to desired uploads or downloads to ensure munitions handling crew availability.

7.6.3. Aircraft loaded with flares and scheduled for evening DS missions may fly local training missions earlier in the day.

7.7. Requesting, Transporting, and Loading Flares. NOTE: Built-up flares will not be floor loaded on aircraft. Ref: AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments.*

7.7.1. 62 AMXS will have a minimum of one load team per shift per AMU to cover flare upload and download operations.

7.7.2. Upon completion of the preload checks, the 62 AMXS Production Superintendent will coordinate flare delivery, including flare configuration through the 62 MXS Production Superintendent (MIKE 2) and notify MOC of the flare upload status.

7.7.3. The MOC will notify the Fire Department:

7.7.3.1. Of aircraft tail number, parking location, and departure time of any flare-loaded aircraft.

7.7.3.2. When flare upload and download operations begin and end.

7.7.3.3. When a partially ejected (or "Hung") flare condition is encountered. (See Attachment 20 for example)

7.7.4. Load crews will:

7.7.4.1. Notify the MOC and the 62 AMXS Production Superintendent upon receipt of flares and when the upload and download operations begin and end.

7.7.4.2. See Attachment 21 for minimum load requirements per flare configuration.

7.7.4.3. See Attachment 22 for example pictures of possible configurations loaded on the C-17A.

7.7.4.4. Store countermeasures dispensing system (CMDS) dispenser cover panels in aft cargo bay storage locations (Attachment 23) on aircraft following munitions upload. These assets along with the empty flare magazine containers will remain with the aircraft at all times.

7.7.4.5. Flare panel installation/removal flare load operations may be documented on the AFTO Form 781A as an "INFO NOTE" per AMC maintenance advisory dated 19 November 2008.

7.8. Launching, Recovering, and Downloading Munitions Loaded Aircraft.

7.8.1. Prior to taxiing munitions-loaded aircraft, aircrew and launch team members will be aware of safe distance established in paragraph 7.4. in the event of incident that requires emergency evacuation of aircraft.

7.8.2. Prior to aircraft landing at McChord AFB, the aircrew will complete applicable checklist procedures and notify the Command Post of arrival and munitions status. The Command Post will then forward the information to the MOC, who will notify 62 AMXS and 62 MXS Production Superintendents of any necessary actions.

7.8.3. The aircrew will stop the aircraft immediately after departing the active runway and deplane the scanner or loadmaster to check all CMDS dispensers for partially ejected or "Hung" flares. If a partially ejected or "Hung" flare is detected, follow procedures in paragraph 7.9. NOTE: Aircraft that have come to a full stop and taxi for another takeoff, do

not require a partially ejected or "Hung" flare check prior to takeoff. NOTE: All flares downloaded at home station require a post-use inspection by qualified munitions personnel prior to being released for further use. An inspection is not required if flares are downloaded temporarily to facilitate other maintenance for EWS software loads or operational checks.

7.8.4. Direct any deviations to paragraphs 7.2. and 7.3. to the 62 AMXS Production Superintendent in conjunction with the Command Post Duty Officer for approval.

7.8.5. Aircraft recovering at locations not normally under the control of USAF maintenance personnel, not associated with munitions handling (i.e., Malaysian Air Fields), and/or the entire ramp is not sited as an Aircraft Explosive Cargo Parking Area (AECPA) will have the appropriate fire Hazard Class/Division placard symbols posted after engine shutdown and removed just prior to engine start (Attachment 24).

7.9. Partially Ejected or "Hung" Flare Procedures. NOTE: Flares used in the ALE-47 system that fail to fire are not considered partially ejected or "Hung" flares. See Attachment 20 for identification of partially ejected or "Hung" flares.

7.9.1. When a partially ejected or "Hung" flare condition is suspected in flight:

7.9.1.1. The aircrew will:

7.9.1.1.1. Notify the Control Tower and Command Post of the suspected partially ejected or "Hung" flare condition by declaring an in-flight emergency (IFE).

7.9.1.1.2. Verify that the DS is safe according to all system safety procedures before landing.

7.9.1.1.3. Avoid bringing the aircraft to a full stop anywhere on the ramp that might restrict the flow of emergency and maintenance vehicles from responding to a partially ejected or "Hung" flare condition and increase the safety risk to the aircraft and crew. Taxi suspect aircraft to one of the following "HOT Cargo" pads: L-1, K-2, or F-40.

7.9.1.1.4. Deplane a scanner or loadmaster to visually check for partially ejected or "Hung" flare. If a partially ejected or "Hung" flare is detected, the crew will shut down and then evacuate the aircraft and establish a 600-foot cordon around the aircraft.

7.9.1.2. Command Post will:

7.9.1.2.1. Initiate the partially ejected or "Hung" flare ground emergency checklist if not received via crash net.

7.9.1.2.2. Obtain parking location from the MOC for a partially ejected or "Hung" flare check and forward that location to the aircrew.

7.9.1.2.3. Notify Fire Department and EOD of the suspected partially ejected or "Hung" flare condition and location of aircraft.

7.9.1.3. EOD will safe the DS, remove any/all partially ejected or "Hung" flare, and notify the fire department incident commander for termination of the ground emergency.

7.9.2. If a partially ejected or "Hung" flare is encountered by the scanner or loadmaster and an IFE was not previously declared:

7.9.2.1. The aircrew will declare a ground emergency with the tower, shut down and evacuate the aircraft, and establish a 600-foot cordon around the aircraft.

7.9.2.2. The Command Post will initiate the ground emergency checklist and forward aircraft location to the Fire Department and EOD.

7.9.2.3. EOD will safe the DS, remove any/all partially ejected or "Hung" flare, and notify the fire department incident commander for termination of the ground emergency.

7.10. Uploading and Downloading Mishap Procedures.

7.10.1. The load crew will inspect any magazine dropped from a height of 3 feet or less for damage in accordance with the applicable aircraft checklist (1C-17A-33-1-2-1CL-1 or 1C-17A-33-1-2-2CL-1).

7.10.2. If a loaded magazine is dropped from a height of 3 feet or more:

7.10.2.1. The load crew will cease operations, declare a ground emergency, evacuate the aircraft, and establish a 600-foot cordon around the aircraft.

7.10.2.2. The Command Post will initiate the ground emergency checklist.

7.10.2.3. Upon ground emergency termination, the MOC will contact the 62 MXS Production Superintendent for turn-in of the dropped magazine. Munitions personnel will extract all flares and electronic countermeasures (ECM) personnel will inspect the magazine for serviceability.

7.10.2.4. The MOC will notify the WTQM of the incident to include status of equipment, personnel involved and aircraft affected.

7.11. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 8

AEROSPACE GROUND EQUIPMENT

8.1. Introduction. This chapter establishes policies and procedures for control, inspection, maintenance, dispatch, and use of aerospace ground equipment (AGE). This chapter is consistent with all applicable Air Force Occupational Safety and Health Standards (AFOSHSTDs). OPR for this chapter is 62 MXG/QAI (382-5361/3343)

8.2. Responsibilities. Commanders and supervisors at all levels within the 62/446 MXG are responsible for enforcing this chapter.

8.3. Procedures for Equipment Usage and Maintenance:

8.3.1. Users will:

8.3.1.1. Perform a prior-to-use equipment operational/safety inspection to include a forms check for current status and a visual inspection of equipment for defects and adequate fluid levels. Users will also ensure that all inspections are current on the equipment prior to use.

8.3.1.2. Annotate discrepancies discovered prior-to-use or during operation on the unit's Air Force Technical Order (AFTO) IMT 244/245, Industrial/Support Equipment Record/ Continuation Sheet and notify the Maintenance Operations Center (MOC) or AGE Flight (MIKE 14), or POL for LOX carts of "Red X" conditions as soon as possible.

8.3.1.3. Perform inspections, and servicing of all work center assigned non powered AGE (NPAGE).

8.3.1.4. Perform servicing of hydraulic/oil carts, and draining of used fuel/oil bowsers.

8.3.1.5. Notify Mike 2 when replacement of bottle on gaseous oxygen (GOX) cart is required for mission accomplishment and deliver the affected cart to the Electro-Environmental shop for GOX bottle replacement. NOTE: Individual users/units are responsible for the transport of GOX carts to/from storage areas.

8.3.1.6. Secure all powered-AGE cables, accessories, and hoses when not in use to include moving equipment away from aircraft, or buildings. Additionally, users will ensure all personal items and foreign objects (FO) have been removed and notify Mike 14, POL, 62d Maintenance Squadron Production Superintendent (Mike 2), or MOC when unit is ready for pick up. This will allow the owner to service equipment when not in use.

8.3.1.7. Ensure all maintenance stand handrails are installed and secured prior to removal from aircraft/worksite or when maintenance is complete. Ensure unit tow-bars are in place, rams are completely lowered, and jack screws are fully retracted to hand tight position with handle collapsed against screw mechanism (if equipped). For other specific safety and operational requirements refer to the applicable 35-series TOs.

8.3.1.8. Dispatch and pick up all NPAGE to and from sub-pools and set *all* caster brakes whether the stand is in-use or not. Equipment found to be unserviceable will be immediately removed from service; discrepancy documented on unit AFTO 244/245, pull

the "remove before flight" red flag from the forms bag, place in transition area, and notify MIKE 14, POL or MOC.

8.3.1.9. Ensure an entry is made on the LOX cart's AFTO Form 134, Aviator Breathing Oxygen Servicing Trailer Log (Liquid/Gaseous). Users will also ensure the LOX level in the cart doesn't drop below 5 gallons during aircraft LOX servicing. If the LOX cart requires servicing, notify MOC or POL.

8.3.1.9.1. If a user fails to annotate the AFTO Form 134 after use, POL drivers will attempt to remedy the situation by contacting the appropriate flight line expediter and/or Pro Super. Documentation of LOX cart usage is critical as POL will not service any cart without properly accounting for the LOX used.

8.3.1.10. Ensure proper control and accountability of equipment by processing AGE deployment requests (e.g., MRTs) through Mike 2 or 62 MXS AGE Mobility Noncommissioned Officer (NCO). The AGE Mobility NCO or shift supervisor will provide documentation for the equipment. Documentation for deployment requests of LOX and GOX carts will be provided by the Electro-Environmental shop shift supervisor after coordination with Mike 2 or the 62 MXS AGE Mobility NCO.

8.3.1.11. Ensure the speed control switch on the universal maintenance stand (UMS) is placed in the "slow" position when operating within 25 feet of aircraft, equipment, buildings, and maintenance personnel. Utilize LCL 62 MXG-8, *Flight Line Operation of the Split Deck Universal Maintenance Stand (UMS)* for additional operating guidance.

8.3.1.12. Ensure no UMS or Simon/Genie man lifts are driven from hangars or nose docks to the aircraft parking area or vice versa. Contact MOC, Mike 14, or Mike 2 for movement of the UMS or man lifts.

8.3.1.13. Ensure equipment or tools utilizing an AFTO IMT 244/245 have the Supervisory Review (section IV) complied with every 180 days or when new or replacement forms are generated.

8.4. GOX/LOX C art Usage, Maintenance and Transportation

8.4.1. The 62 MXS Electro-Environmental shop will:

8.4.1.1. Replace depleted GOX bottles on assigned carts in a timely manner to prevent mission delays.

8.4.1.2. Monitor all inspections and discrepancies on assigned GOX/LOX carts to ensure timely repair of mission-limiting conditions or required inspections.

8.4.1.3. Coordinate all upcoming inspections for assigned LOX carts with AGE and POL at least 1 week prior to the inspection due date.

8.4.1.4. Prepare all LOX/GOX carts for AGE maintenance prior to delivery to AGE for inspection/repair.

8.4.1.5. Report the status of non-mission capable LOX/GOX carts to 62 MXS/MXM once a week.

8.4.2. The 62 LRS/POL section will:

8.4.2.1. Perform servicing of all assigned LOX carts.

8.4.2.2. Monitor the location of all assigned LOX carts.

8.4.2.3. Transport LOX carts to/from aircraft for servicing operations and to the 62 MXS Electro Environmental shop or AGE section for inspection and maintenance. WARNING: Brakes must be set and the vent valve left open on all stationary carts and closed during transport. Failure to verify the vent valve position could result in damage to the cart.

8.4.2.3.1. Prior to transport, POL drivers must ensure LOX carts are serviceable by checking the AFTO Form 244/245 for inspection currency and mission-limiting discrepancies. Transport all LOX carts with due or overdue inspections and "Red X" conditions directly to the Electro-Environmental shop as soon as possible.

8.4.2.4. Verify servicing information on the AFTO Form 134 is documented by the user prior to transport from an aircraft just serviced. If not documented, contact the applicable flight line expediter (e.g., Blue 4, Silver 4, etc.) or Pro Super for remedy.

8.5. The 62/446 MXS AGE Flight will:

8.5.1. Ensure NPAGE in designated sub-pools are secured to the tie-down cable during inclement weather (where installed) and all caster brakes are engaged.

8.5.2. During local mission flying windows, typically 0600-1000 hours and 1700-2000 hours, and while performing quick reaction checklist (QRC) actions for severe weather, AGE flight will assist AMXS with non-powered stand movement to support mission requirements.

8.5.3. Monitor sub-pools and flight line for unserviceable and red flagged units. Coordinate with flight line expediters for removal of unused powered AGE.

8.6. Equipment Damage. The affected squadron safety NCO will ensure the appropriate maintenance mishap report is filed and subsequent investigation is conducted of damaged AGE due to misuse or accident. A copy of the report will be routed through 62 MXS Maintenance Supervision (62 MXS/MXM) to the affected squadron commander. A copy of the report will be routed back to the owing agency for tracking purposes. In addition, a report of survey (if required) will be initiated by the owning agency in accordance with AFMAN 23-220, *Reports of Survey for Air Force Property*.

8.7. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 9

AEROSPACE CORROSION CONTROL PROGRAM

9.1. Introduction. This chapter provides guidance to develop and manage a corrosion control program (CCP) to safely and effectively extend the service life of assigned C-17A aircraft, Support Equipment (SE), and Munitions Material Handling Equipment (MMHE) in an environmentally conscientious manner. OPR for this chapter is 62 MXS/MXMFB (DSN 382-1198/5332/Commercial 253-982-1198/5332)

9.2. General. All maintenance personnel are responsible for identifying potentially corroded structures/components and documenting them in the appropriate forms. The Aircraft Structural Maintenance (ASM) Section evaluates corrosion discrepancies to determine proper treatment or repair. Aircraft paint touch-up requirements are based on the scoring process and overall paint deterioration. To maintain healthy paint condition, aircraft are painted on a "worst first" basis. The 62d Maintenance Group Commander (62 MXG/CC) and/or 62d Airlift Wing (62 AW) CCP Manager retain authority to alter the paint cycle.

9.3. Responsibilities.

9.3.1. The 62 AW CCP Manager has overall responsibility for corrosion prevention and control program/capabilities of the flight line, contract maintenance, and support shops, and acts as a liaison/technical advisor for the 62 AW. Additionally, the CCP Manager is responsible for inspecting, documenting, tracking, and maintaining the corrosion prevention and protective coating condition of assigned aircraft. The CCP Manager will:

9.3.1.1. Prioritize aircraft maintenance paint requirements and provide 62d Maintenance Operations Squadron (62 MOS), Plans, Scheduling, and Documentation (PS&D) section with prioritized inputs monthly.

9.3.1.2. Accomplish a paint score and corrosion control inspection for aircraft returning from depot programmed maintenance or command transfer prior to the aircraft's first scheduled home-station departure.

9.3.1.3. Provide assistance to and serve as point of contact for all external units to develop their own corrosion control programs for their assets.

9.3.1.4. Ensure operations conducted within corrosion control facilities comply with established safety and occupational health practices and procedures.

9.3.1.5. Establish and chair a local corrosion prevention working group to formalize the wing corrosion management program. Working groups will meet at least annually.

9.3.1.6. Provide a current copy of the Qualified Products Listing (QPL) for mil-spec approved cleaners for assigned aircraft and equipment every six months to Aircraft Maintenance Squadron (AMXS) and Maintenance Squadron (MXS) maintenance supervision and flight chiefs, aircraft wash rack and support sections.

9.3.2. The Aerospace Ground Equipment (AGE) Flight has overall responsibility for inspecting, documenting, tracking, and refurbishing AGE.

9.3.3. PS&D provides the aircraft tail number at least one week in advance and will ensure the wash is scheduled prior to paint. PS&D will schedule aircraft based on Corrosion Control Facility (CCF) and aircraft availability at the discretion of the Wing CCP manager. The aircraft selected comes from a list of candidate aircraft on a "worst first" basis provided by the Wing CCP Manager. Departures in scheduling from the list of candidate aircraft will be coordinated through the Wing CCP Program Manager. Aircraft scheduled within 180 days of programmed Depot scuff/repaint or strip/repaint are not painted regardless of condition.

9.4. Aircraft Scoring and Ranking Procedures.

9.4.1. Paint scoring will be accomplished during each home station check (HSC), all transfers, and upon return from depot maintenance. All major external components will be installed to provide an accurate assessment of the overall paint condition.

9.4.1.1. Digital photographs will be utilized to archive the scoring and stored/filed in the aircraft database located at L:\MXMF\Structural Maintenance\C-17 Aircraft Files. Each aircraft has a folder, named and dated with month/year of the most recent paint score. Once painting is complete, all previous paint photographs are deleted.

9.4.1.2. Paint deteriorations and/or discolorations will be photographed in such a manner that the component can be easily identified. The aircraft is broken into scoring zones and each zone is photographed. Any additional areas with significant paint discrepancies are also photographed (Attachment 25).

9.4.2. Aircraft are ranked/prioritized utilizing categories (CAT) I to V (I being best and V being worst), based on the severity of paint deterioration. Once categorized, the aircraft are identified on the paint schedule with the required paint time and minimum cure time estimates. NOTE: A 24 hour paint cure is established only when the CCF heating system is operating at a 75 degree Fahrenheit temperature, otherwise a 72 hour paint cure will be imposed IAW Technical Order (TO) 1-1-8, Application and Removal of Organic Coatings.

9.4.2.1. CAT I ranking indicates a negligible condition not requiring maintenance.

9.4.2.2. CAT II ranking indicates a correctable condition with SEMPEN paint pens, minor spraying, and/or brush touch-up, usually limited to slat leading edges or exposed composite materials. An estimated time in commission (ETIC) is set at 48 hours + 24-72-hour cure before flight depending on conditions.

9.4.2.3. CAT III ranking indicates a condition that may include sectionalized painting of wing leading edges, nacelles, and flaps. An ETIC is set at 72 hours + 24-72-hour cure before flight depending on conditions.

9.4.2.4. CAT IV ranking indicates a condition requiring complete repaint of major components involving most zones. An ETIC is set at 96 hours + 24-72-hour cure before flight depending on conditions.

9.4.2.5. CAT V ranking indicates an aircraft requiring complete repaint of major components involving most zones and large areas of the fuselage. An ETIC is set at 120 hours + 24-72-hour cure before flight depending on conditions.

9.4.3. Aircraft ranked III, IV, or V are scheduled into the corrosion control facility for protective coating (paint) maintenance. This permits paint touch-up approximately at mid-point of the 5 and 10 year paint cycles.

9.5. Protective Coating Maintenance.

9.5.1. Maintenance painting is defined as the application of coatings to aerospace equipment where the existing coating system is deteriorated or missing. Maintenance painting must be kept to a minimum and must comply with federal, state, and local environmental regulations. Maintenance painting of aircraft accomplished solely for cosmetic purposes is highly discouraged due to adverse environmental impact, coating thickness restrictions, and weight and balance issues.

9.5.2. Aircraft are pre-positioned and configured for maintenance paint in the CCF, hangar 6, no-later-than 1900 the evening of the scheduled paint day per LCL 62 MXG-5 *Hangaring of All Assigned and Transient Aircraft* (access panels installed, cowlings closed, battery disconnected, etc.). The aircraft configuration is determined by structural maintenance technicians and hangared in the CCF with sufficient time to dry aircraft after wash to allow the skin surface to warm to at least 60 degrees Fahrenheit. This time varies depending on air temperature and relative humidity.

9.5.2.1. Maintenance painting is accomplished from seam-to-seam, and will be masked at the edges. Where a seam is not reasonably accessible, a "simulated" seam may be created. No unmasked spray touch-up is authorized.

9.5.2.2. Atomized spray, paint brushing, rolling, dual component aerosol, and SEMPEN paint pens are the only authorized methods for paint application. SEMPEN paint pens and paintbrush application methods are the preferred means of touching-up minor scratches and fastener heads. Single-component aerosol paint cans are not authorized and will not be used to touch-up any type of defect on aircraft or SE.

9.5.2.3. Paint cure times are critical to the effectiveness of the final coating. After painting, allow aircraft to cure in a dust-free temperature controlled environment for a sufficient time prior to placing in service. Aircraft paint cure at 75 degrees F and 30-50% relative humidity will be 24 hours. In the absence of accelerated curing at 75 degrees F at 30-50% relative humidity, the aircraft shall not be flown for at least 72 hours after painting. Aircraft freshly painted need to air dry and out-gas for a minimum of 12 hours before technicians can perform other types of maintenance or subject the aircraft to inclement weather.

9.6. AGE Corrosion Control Program (ACCP) and Munitions Corrosion Control Program (MCCP).

9.6.1. Fabrication, AGE, and Munitions Flights will determine the appropriate flow and manpower for the painting of SE and MMHE. Equipment will be painted on a "worst first" basis.

9.6.2. SE and MMHE Categories and Quantities:

9.6.2.1. CAT I indicates a condition that requires minimal touch-up or no work at all.

9.6.2.2. CAT II indicates a condition requiring partial paint touch-up or scuff and repaint of SE and MMHE. Prior to paint application, the location or severity of corrosion determines the necessity for its removal from the unit. Unit downtime in this category should be minimized.

9.6.2.3. CAT III indicates a condition that requires plastic media blasting (PMB) and full paint compliance is needed for SE and MMHE identified under this category. Complete tear down of the unit may be necessary when full paint is required. The size of unit and complexity of tear down will determine required downtime.

9.6.3. Contracted AGE and MMHE painting will be monitored by respective flights. Contract specifications will be approved by the Wing Corrosion Control Program Manager.

9.6.3.1. Periodic inspections will be performed throughout the process to ensure proper materials and coating application are used IAW TO 1-1-8.

9.6.3.2. Paint quality/conformance and corrosion acceptance inspections will be performed on SE and MMHE by the CCP Manager when it is received back from contracted painting.

9.6.4. Responsibilities.

9.6.4.1. The ACCP and MCCP is designed to aide 62 MXS AGE Flight (MXMG) and Munitions Flight (MXMW) personnel to properly identify and update CAT priorities during equipment periodic inspections.

9.6.4.2. MXMG will provide SE weekly to Fabrication Flight (MXMF) for paint. The point of contact (POC) within MXMF is ASM supervision. The ASM section will be given a copy of AGE scheduled for paint monthly. If additional equipment requires paint, MXMF will be contacted to fit the additional units into the established AGE paint schedule.

9.6.4.3. MXMW will provide MMHE on an as needed basis to MXMF for paint. The POC within MXMF is ASM supervision. The ASM section will be given a copy of MMHE scheduled for paint monthly. If additional equipment requires paint, MXMF will be contacted to fit the additional units into the established weekly paint schedule.

9.6.4.4. MXMF will procure, monitor and store the media/paint supplies to ensure sufficient quantities are available to successfully prepare and paint equipment in the ACCP/MCCP.

9.6.4.5. MXMG and MXMW will have primary responsibility for the preparation of SE and MMHE for paint to include transportation, teardown, forms documentation, sanding, and blasting. ASM will assist with the PMB and sanding of equipment unless mission requirements dictate otherwise. MXMG and MXMW will stencil, apply reflective tape, provide mobility placards, and reassemble MMHE after painted. PMB equipment requires a respirator-qualified 2-man concept. Only ASM personnel will perform the paint process.

9.6.4.6. MXMG and MXMW will conduct a 100 percent corrosion inspection on all SE/MMHE. Each piece will receive a corrosion category rating of I, II, or III and placed in the ACCP/MCCP. MXMG will re-inspect AGE during semi-annual inspections and make required rating changes. MXMW will inspect MMHE annually and make required rating changes.

9.7. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 10

TCTO/OTI

10.1. Introduction. This chapter provides specific guidance and responsibilities for implementing Time Compliance Technical Orders (TCTO) and One-Time Inspections (OTIs). OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

10.2. Command TCTO/OTI, Immediate or Urgent Action. Any MXG agency contacted by higher headquarters for a Category "1"-Immediate Action or Category "2"-Urgent Action TCTO/OTI will immediately contact the MOC who will in turn notify 62 MXG Quality Assurance Technical Order Distribution Office (QAT or TODO), 62d MOS Plans, Scheduling, and Documentation (PS&D), and the 62 MXG QA Inspection section..

10.3. Command TCTO/OTI, Routine or Record Event. MXG Staff will check the Automated Message Handling System mail daily, retrieve applicable TCTOs and OTIs, then forward to the TODO. The TODO will date-stamp and file one copy in the TO library on the day received, then forward the date-stamped copy to QAI for review. The QAI subject matter expert will review the TCTO and/or OTI for applicability on the day received and immediately forward a copy to the 62 MOS PS&D Office.

10.4. Locally Generated OTIs (LOTIs).

10.4.1. This section establishes LOTI procedures for the MXG for the purpose of tracking, reviewing, distributing, and accounting. Any individual can submit a LOTI request to QAI.

10.4.2. QA will:

10.4.2.1. Format the LOTI using the template in Attachment 26.

10.4.2.2. Review LOTI content and finalize with 62d Aircraft Maintenance Squadron (AMXS) and Maintenance Squadron (MXS) performing work center lead technicians.

10.4.2.3. Assign a category of 1-Immediate, 2-Urgent Action, 3-Routine, or “R”-Record/Event. NOTE: LOTIs generally have "R" as the category.

10.4.2.4. Assign a LOTI number/data code in accordance with AFI 21-101.

10.4.2.5. Coordinate the LOTI with appropriate squadron maintenance operations for final review before presentation to the 62/446 MXG CC for approval.

10.5. TCTO/OTI Distribution.

10.5.1. The TODO will follow the guidance outlined in AFI 21-101 and TO 00-5-15, *Air Force Time Compliance Technical Order Process.*

10.5.2. Upon receipt of a date-stamped copy of the TCTO/OTI or LOTI, PS&D will follow the guidance outline in AFI 21-101 and TO 00-5-15.

10.5.3. At the completion of the TCTO meeting, PS&D will notify QA TODO with the number of TCTO copies that require the “WORKING COPY” stamp.

10.6. TCTO/OTI Performance and Documentation. Performing work centers will:

10.6.1. Ensure the TCTO completed action and partially completed action documentation requirements specified by TO 00-20-2, *Maintenance Data Documentation*, are clarified and understood prior to TCTO accomplishment.

10.6.1.1. In G081, utilize HOW MAL code 801 for fully completed TCTOs/OTIs with a units entry of "01".

10.6.1.2. In G081 utilize HOW MAL code 802 for partially completed TCTOs/OTIs with a units entry of "0".

10.6.2. Call QA to verify if initial TCTO/OTI accomplishment was validated through a Technical Inspection (TI) and, if not, ensure QA is present for initial accomplishment.

10.7. Inspection Results. Disposition of the inspection results will be specified in the TCTO/OTI. QA supervision will review findings and make recommendations to 62/446 MXG/CC for any further actions.

10.8. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 11

AIRCRAFT ACCEPTANCE INSPECTIONS

11.1. Introduction. This chapter, in accordance with AFI 21-101, establishes procedures for the accomplishment of acceptance inspections on 62d Airlift Wing aircraft that are newly assigned, have completed off-station depot-level or contract maintenance, transferred from another organization, or are newly procured. This instruction does not apply to C-17A engines managed under the Boeing Globemaster III Sustainment Partnership. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

11.1.1. Acceptance inspections will utilize the appropriate checklist (Attachment 27) and local JST (pre-printed package).

11.1.2. Off station acceptance inspections will utilize the appropriate checklist (Attachment 28) and local JST (pre-printed package).

11.2. Responsibilities. Each commander and supervisor will ensure the tasks included in this instruction and associated with their organization are accomplished IAW this instruction.

11.3. Procedures.

11.3.1. The 62d Maintenance Group Quality Assurance Evaluators (62 MXG/QAE) will:

11.3.1.1. Ensure 62d Maintenance Group Product Improvement Office (62 MXG/QAP) inputs all major and critical discrepancies found on aircraft, as reported by maintenance personnel, on a deficiency report via Infocen Database.

11.3.1.2. For aircraft transferring from contractor performed depot-level maintenance or a C-17A assembly facility, forward an assessment of the condition of each aircraft to C-17 Systems Group within 15 days after the aircraft's first basic postflight (BPO)/preflight inspection.

11.3.2. Aircraft Acceptance Inspections:

11.3.2.1. The 62d Maintenance Operations Squadron, Plans, Scheduling, and Documentation (PS&D) Element (62 MOS/MXOOS) will:

11.3.2.1.1. Place the appropriate aircraft in Possession Purpose Identifier Code (BT) for the duration of the acceptance inspection IAW AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*.

11.3.2.1.2. Schedule a pre-acceptance inspection meeting to be held the duty day prior to aircraft arrival. Inspection areas will be determined at the pre-acceptance meeting using previously identified problem areas. These problem areas along with Quality Assurance (QA) deficiency reports, Engineering Dispositions (EDs), time compliance technical orders (TCTOs) time change items (TCIs), and special inspections (SI) requirements will be documented on an AF IMT 2410, *Inspection/TCTO Planning Checklist*. All agencies present will sign the AF IMT 2410 and receive a copy. File the form with G081, Core Automated Maintenance System (CAMS) for Mobility, products used for review in the aircraft jacket file. Attendees will be:

11.3.2.1.2.1. Plans, Scheduling, and Documentation (PS&D)

11.3.2.1.2.2. Owning Aircraft Maintenance Unit (AMU) Production Superintendent (Pro Super)

11.3.2.1.2.3. Aircraft Dedicated Crew Chief (DCC)/Assistant Dedicated Crew Chief (ADCC)

11.3.2.1.2.4. Engine Management (Pratt & Whitney Field Service Representative)

11.3.2.1.2.5. Aircraft Maintenance Squadron Supervision (AMXS/MXA)

11.3.2.1.2.6. Maintenance Squadron Supervision (MXS/MXM)

11.3.2.1.2.7. Quality Assurance (MXG/QA)

11.3.2.1.2.8. Structural Maintenance Section

11.3.2.1.2.9. RAMS (Recovery and Modification Services)

11.3.2.1.2.10. 62 AMXS ELEN (Electrical and Environmental Section)

11.3.2.1.2.11. Aircrew Flight Equipment

11.3.2.1.2.12. Supply (Flight Line Support Center)

11.3.2.1.3. In G081, schedule the acceptance inspection package in accordance with McChord AFB C-17 Acceptance Inspection Checklist (Attachment 27).

11.3.2.1.4. Coordinate with the depot facility when contracted work is not completed, maintenance discrepancies are found during the acceptance inspection, or there is missing and/or incorrect historical data.

11.3.2.1.5. Coordinate a review with maintenance (if applicable) of the Negotiated Order Change (NOC) waiver summary sheet. Upon completion of all future depot activities, track waiver compliance with the C-17 System Group and report waiver status to AMXS Maintenance Operations and/or the AMU Pro Super.

11.3.2.1.6. Report findings of -21 equipment shortages to the losing unit and MAJCOM within 24 hours of discovery IAW AFI 21-103, paragraph 9.14.

11.3.2.1.7. Annotate the acceptance inspection on the AFTO IMT 95, *Significant Historical Data*, and update/validate aircraft operating time data in G081.

11.3.2.1.8. Conduct a post-acceptance inspection document review IAW TO 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*.

11.3.2.2. 62 AMXS will:

11.3.2.2.1. Notify PS&D of aircraft arrival or on-base depot team work completion. Ensure the gaining AMU Pro Super attends the pre-acceptance meeting scheduled by PS&D.

11.3.2.2.2. Assist PS&D with review of factory NOC waivers. If needed, ensure field-level visibility by placing a note in aircraft forms, AFTO 781A/K, *Aircraft Maintenance Work Document/Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*, addressing individual waivers.

Ensure the waiver summary sheet supplied by PS&D is placed in front of the aircraft's 781As for future reference. NOTE: PS&D will, upon depot returns, inform the AMU Pro Super of current waiver status/completions.

11.3.2.2.3. Ensure the acceptance inspection includes a BPO inspection prior to the next scheduled flight.

11.3.2.2.4. Ensure the applicable McChord AFB C-17 Acceptance Inspection Checklist is completed (Attachment 27).

11.3.2.2.5. Deliver aircraft historical file and a copy of AFTO Form 781J, *Aerospace Vehicle- Engine Flight Document*; AFTO Form 290,*Aerospace Vehicle Delivery Receipt*; DD Form 1149, *Requisition and Invoice/Shipping Document*; and AFTO Form 345, *Aerospace Vehicle Transfer Inspection Checklist and Certification* (if applicable) to PS&D.

11.3.2.2.6. Ensure a Chart-A inventory and Chart-C update, as required, are performed by QA prior to next flight.

11.3.2.2.7. Task the owning AMU and supporting work center to document all acceptance inspection work in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*, and in G081. Major and critical discrepancies will be forwarded on a MDR/QDR (DREAMS) worksheet to 62 MXG/QAP.

11.3.2.2.8. Task the owning AMU to re-inspect open depot discrepancies to ensure they are still valid. If they have been corrected, enter in the corrected block, "Corrected at depot, verified at McChord," followed by the date and signature. Verify with PS&D the status of factory NOC waiver items upon return from depot.

11.3.2.2.9. Task the owning AMU to evaluate Tail Number Bin (TNB) items for installation in conjunction with the acceptance inspection. Review delayed discrepancies and validate/correct all related supply issues.

11.3.2.2.10. Ensure Support Flight performs an inventory of all -21 equipment using AF IMT 2692, *Aircraft/Missile Equipment Transfer/Shipping Listing*. Immediately notify PS&D Section of missing items or unsafe equipment IAW AFI 21-103, paragraph 9.14.1, and Attachment 9, paragraphs A9.10 - A9.12, by forwarding them the AF IMT 2692.

11.3.2.2.11. Perform forms validation IAW TO 00-20-1 after completion of the acceptance inspection.

11.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attach 1.

Chapter 12

TECHNICAL ORDER MANAGEMENT

12.1. Introduction. This chapter establishes local procedures for the maintenance and management of technical order (TO) files. It outlines training requirements for personnel assigned to manage technical order libraries and procedures for managing the libraries in addition to requirements identified in AFI 21-101, TO 00-5-1, *Air Force Technical Order System*; and TO 00-5-15, *Air Force Time Compliance Technical Order Process.* Electronic, web-based, and digital technical orders are addressed, and procedures are clarified to ensure consistency in the use, storage, and management of these systems. OPR for this chapter is 62 MXG/QAT (382-2908/3588)

12.2. Group Lead and Unit Technical Order Distribution Offices (TODOs).

12.2.1. Group Lead TODOs will be established within the 62d Mission Support (62 MSG), 62d Operations Group (62 OG), 62d Medical Squadron (62 MDS), and the 62 Maintenance Group (62 MXG). These offices are the focal points for TO issues within each group (Attachment 29). The Group Lead TODO can be positioned at the group or squadron level.

12.2.2. Tenant units and 446 AW units that currently have a TODO may continue to maintain those accounts.

12.2.3. DELETED

12.2.3.1. Group Lead TODOs will be appointed by the group commander. The appointment letter will be maintained on file in the TODO's continuity book.

12.2.3.2. Unit TODOs will be appointed by the squadron commander. TODAs may be appointed by OIC and or flight chief. (**Attachment 30**) The appointment letter will be filed in the Group Lead TODO continuity book.

12.3. (Applies to 62 MXG Only) Technical Order Library Procedures. These procedures are in addition to the requirements in TO 00-5-1.

12.3.1. TODAs will maintain an account continuity book. The recommended outline is provided in Attachment 31.

12.3.2. Annual and monthly TO Index checks will be documented and readily available. The Annual and List of Effective Pages (LEP) checks must be annotated as shown in Attachment 32.

12.3.3. Changes to technical orders will be posted IAW TO 00-5-1 and Attachment 33.

12.3.4. DELETED

12.3.5. When performing tasks using WA TOs or Enhanced Technical Information Management System (ETIMS), only one task will be open on the viewing screen. When a task is identified as a step-by-step checklist or requires an oral command and response, the page and step of the task being performed must be on the viewing screen.

12.3.6. The 62d Aircraft Maintenance Squadron's (62 AMXS's) aircraft TO file will be used for off-station/en-route tasks only. Home station work will be completed with the master library or ETIMS.

12.3.6.1. Under no circumstances will aircraft files be swapped between aircraft. Upon arrival at home station, the aircraft TO file will be removed and turned into 62 AMXS TODA.

12.3.7. If a TO, job guide (JG), or work card (WC) is found to be missing either from a library or G file, a Lost Tool/Missing Item Report will be accomplished IAW Chapter 15 of this instruction, *Tool Control Procedures* and a copy of the report will be given to the TODO. No replacement will be ordered until a Lost Tool/Missing Item Report is filed. If the lost book is from an aircraft file, a Lost Tool/Missing Item Report will be immediately filled out, and a list of en-route stops made will be attached to the report so the TODA can contact those bases.

12.4. Local Checklists (LCL)/Local Work Cards (LWC)/Local Job Guides (LJG)/Local Page Supplements (LPS).

12.4.1. Use of local checklists/work cards/job guides and page supplements will be limited. Local procedures are for tasks that only apply to McChord AFB. If a procedure will affect McChord personnel off station, then the procedure will be submitted as a change to the TO. No local procedures will be developed for a task submitted as a change. It's the responsibility of the individual developing a local procedure to verify if it needs to be submitted as a change.

12.4.2. DELETED

12.4.3. Each activity requiring local checklists, work cards, or job guides will be designated as office of primary responsibility (OPR) for the publication and will assume full responsibility for technical content. Each OPR is responsible for maintaining all associated TOs and publication from which the local tech data was derived.

12.4.3.1. When updates for referencing TOs are received, the TODO will notify the OPR so that the local tech data can be checked against the current TO for updates. If no update is required, the TODO will maintain all correspondence until the next annual review.

12.4.4. New or revised local tech data will be submitted to the TODO. Coordination will be accomplished using AF IMT 673, Air Force Publication Action Request. Checklists or job guides will be created on AMC IMT 215, Equipment Checklist, and AMC IMT 216, Equipment Checklist Coversheet, and work cards will be created on AMC IMT 220, Inspection Work Card Cover. The tech data will include a purpose statement and a list of the technical orders/directives from which the procedures are extracted.

12.4.5. The TODO will assign a LCL/LWC, LJG or LPS technical order number to the draft and review it for grammatical accuracy. The draft will then be returned to the OPR with any recommendations and/or any changes needed. The final draft will be resubmitted to the TODO for routing to potential users identified by the OPR and final editing. Checklist, job guides, and work cards will be printed on yellow card stock and page supplements will be printed on salmon card stock. Publications used by Night Vision Goggle wearers will be distinguished by a means other than colored pages.

12.4.6. When the final draft is ready for formal publication, TODO will verify the proper format and forward the publication to the respective Group Commander for approval and

signature. The TODO office will forward the final copy for reproduction and distribute all local tech data to identified work centers.

12.4.7. Semi annual review of local tech data will be initiated by the GLTODO using AF IMT 673. The OPR will verify currency and technical accuracy of their tech data. Any discrepancies found during this review that cause the publication to be changed or possibly rescinded, will be documented in the "Remarks" block of the AF IMT 673 and returned to the TODO.

12.5. Reproduction, Distribution, and Handling of Technical Data.

12.5.1. DELETED

12.5.2. DELETED

12.5.2.1. DELETED

12.5.3. Any partial printout from digital TO's used to perform maintenance will include the title page as part of the print out. The currency of the printout must be verified by the user prior to each use. Personnel will staple the printed pages together and annotate the title page with the date/time reproduced, name and employee number of the individual who printed it. When documenting the re-verification of currency, write the word "current" under the original reproduced date and include date, time, name, and employee number of the individual who verified it.

12.5.4. Personnel will staple the printed pages together and annotate the first page with the date and time reproduced basic date, latest change and date, aircraft tail number, name and employee number of the individual who printed it. When documenting the re-verification of currency, write the word "current" under the original reproduced date and include date, time, initials and employee number of the individual who verified it. Destroy the partial printout after the task is complete IAW TO 00-5-1.

12.5.5. **(Applies to 62 MXG Only)** All TODAs are required to check their distribution boxes twice a week. This may be done either in person or with a phone call to the TODO office (2808/3588).

12.6. Inspections.

12.6.1. All TODOs will conduct no-notice and annual inspections on TODAs. See TO 00-5-1; page 4-6, Table 4-1 for basic inspection criteria. All failed inspections will be reevaluated within 30 days. A minimum of 10 books or 10% of the library will be inspected.

12.6.1.1. **(Applies to 62 MXG Only)** See Attachment 34 for scoring of TO inspection items.

12.6.2. TODO will send inspection results to the TODA custodian and respective supervisor.

12.6.3. The GLTODO will inspect the unit TODOs annually using the self-inspection checklist provided in TO 00-5-1.

12.7. E-Tools (Applies to MXG Only). AF maintenance personnel will use E-Tools where available and follow the policies and procedures outlined in TO 00-5-1 and AFI 21-101 pertaining to electronic technical data and E-tools.

12.7.1. The Logistics Network contractor (LOGNET) is the OPR for installing and monitoring E-tool software/hardware configurations. LOGNET will manage all hardware warranty concerns regarding E-tools. If requested, LOGNET will provide training on E-Tool operation.

12.7.2. DELETED

12.7.3. Support sections maintaining/controlling E-Tools will develop a process to verify that the E-Tool has the latest updated tech data prior to leaving CTK IAW TO 00-5-1, paragraph 5.6.6.12.

12.7.4. TODA's will:

12.7.4.1. Develop a process to verify that the E-Tool has the latest updated tech data prior to leaving CTK IAW TO 00-5-1, paragraph 5.6.6.12.

12.7.4.2. Develop a process to ensure that all E-tools will be connected to the local area network (LAN) or wide area network (WAN) to receive updates at a period not to exceed 7 calendar days.

12.7.4.3. Utilize AMC provided docking stations (toasters) to ensure battery recharging/conditioning is maintained and to ensure all E-Tool software and hardware updates are received.

12.7.4.4. Develop an E-Tool utilization and rotation schedule to ensure assigned E-Tools meet life expectancy.

12.7.4.5. Provide a copy of the ADPE listing of all E-tools to the GLTODO.

12.7.4.6. Report E-tool discrepancies to LOGNET.

12.7.4.7. Report tech data discrepancies to the TODO.

12.7.4.8. Ensure that all E-Tools that have been deployed for longer than 30 days are removed from service (upon their return) and forwarded to LOGNET for re-imaging and security updates.

12.7.5. In the event of a MISHAP, units will lock down all E-Tools until it is determined which unit(s) were used on the effected equipment, aircraft and the events log is downloaded to facilitate the MISHAP investigation.

12.8. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 13

FUNCTIONAL CHECK FLIGHT/OPERATIONAL CHECK FLIGHT/HIGH SPEED TAXI

13.1. Introduction. This chapter standardizes procedures for managing an effective Functional Check Flight (FCF), Operational Check Flight (OCF), In-flight Operational Check (IOC) and High-Speed Taxi Check (HSTC) program. It applies to all personnel involved in preparation and performance of FCFs, OCF/IOCs and HSTCs on assigned or transient C-17A aircraft at McChord Air Force Base. FCFs, OCF/IOCs and HSTCs are defined in AFI 21-101. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361).

13.2. Responsibilities. The 62d Maintenance Group Commander (MXG/CC) and 62d Operations Group Commander (OG/CC) have joint responsibility for effective management of the installation FCF program. The success of this program relies on cooperation between the maintenance and operations communities. The MXG/QA Superintendent or Chief Inspector and the OG/OGV FCF officer in charge (OIC) collaborate to ensure a viable program.

13.3. Procedures. These procedures will typically be accomplished after flight-altering modifications, completion of maintenance specified in the applicable aircraft technical order TO 1C-17A-6, Inspection Requirements Manual, or when commanders deem a functional/operational test flight, in-flight operational check, or high-speed taxi check is appropriate. This instruction provides guidance to ensure the procedure is accomplished safely, expediently, and by an appropriately qualified crew.

13.4. 62d Maintenance Group (MXG) Quality Assurance Inspection (QAI) Office Responsibilities. MXG/QAI is the maintenance focal point for FCF, OCF, IOC, and HSTC matters. The QAI section will:

13.4.1. Help plan and monitor the FCF.

13.4.2. Establish points of contact in QAI, OG/OGV, and the applicable squadron or AMU Maintenance Superintendent for coordination of each FCF.

13.4.3. Notify Plans, Scheduling, and Documentation (MOS/MXOOS), Operations Group Deputy Director (OG/OSO) and OG/OGV of the FCF requirement providing a minimum 24-hour notice for scheduling and establishing crew alert times.

13.4.4. Monitor the aircraft maintenance estimated time in commission (ETIC) schedule and schedule the date, time, and location for a "prior-to-flight" aircrew briefing (pre-brief) no later than 3 hours prior to launch.

13.4.5. Ensure a combined Preflight/Basic Post-flight or Preflight (whichever is applicable) quality verification inspection (QVI) is accomplished no later than 6 hours prior to the actual FCF flight. If the aircraft requires a subsequent FCF due to a non-release condition, a second QVI is not required.

13.4.6. Host the pre-brief ensuring all requirements outlined in AFI 21-101 are met. (Attachment 35).

13.4.7. Initiate the FCF worksheet (Attachment 36) and issue the FCF kit to the flight crew. The FCF worksheet is a detailed checklist used to record coordination requirements and aids

the pre-brief. The FCF kit includes T.O. 1-1-300, *Acceptance/Functional Check Flights and Maintenance Operational Checks;* applicable T.O. 1C-17A–6CF-1, *Acceptance and/or Functional Check Flight Procedures;* T.O. 1C-17A-6CL-1, *Acceptance and/or Functional Check Flight Checklist;* and flight crew briefing letter.

13.4.8. Facilitate the FCF debrief and review TO 1C-17A-6CL-1 and aircraft AFTO Form 781,Aircrew/Mission Flight Data Document, for adequate completion of all items. Ensure the FCF kit is returned to QAI.

13.4.9. Maintain a FCF file for historical information as required in AFI 21-101. Forward a copy of the log entry and all related FCF documentation to 62d Maintenance Operations Squadron's Plans, Scheduling, and Documentation (MOS/MXOOS) for filing in the aircraft jacket file. MOS/MXOOS will maintain FCF records for a minimum period of one year after which they may be destroyed. See AFI 21-101 for what records are contained in a FCF file.

13.4.10. Brief the MXG/CC or designate on FCF results.

13.5. The Aircraft-Owning Maintenance Squadron (AMXS or MXS) Responsibility. The aircraft-owning maintenance squadron (AMXS or MXS) will:

13.5.1. Notify QAI immediately upon discovery that a check flight, operational check, or taxi check is probable, pending, or necessary. Notification will include the circumstances and conditions driving the potential action so planning and coordination can be accomplished. A minimum of 24-hours notification is required for scheduling purposes.

13.5.2. Configure the aircraft as necessary for a thorough and safe operational check of related system(s) (no cargo or comfort pallet).

13.5.3. Notify Aircrew Flight Equipment to inventory and configure aircraft IAW AFI 11-2C-17V2, Addenda A (if necessary).

13.5.4. Initiate entries on the aircraft's AFTO Form 781A, Maintenance Discrepancy and Work Document, per TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures,* (See Attachment 37.).

13.5.5. Perform a Combined Preflight/Basic Post-flight or Preflight (whichever is required) prior to the FCF launch. Notify the QAI section (x2-3343) no later than 6 hours before a scheduled FCF launch for a QVI.

13.5.6. Provide systems specialists, as necessary, to assist in the aircrew pre-brief and debrief processes.

13.6. OG/OGV and the OG/CC-Appointed FCF OIC Responsibility. OG/OGV and the OG/CC-appointed FCF OIC will:

13.6.1. Coordinate on all issues dealing with FCF events, as required.

13.6.2. Determine and inform Operations Group Current Operations Flight (OSO) of aircrew qualification requirements, as appropriate, to fly the FCF. Make recommendations to the OG/CC to either proceed with or postpone the FCF if a qualified, trained FCF aircrew is required but not available.

13.6.3. Check weather requirements IAW T.O. 1-1-300, *Acceptance/Functional Check Flights and Maintenance Operational Checks,* for the FCF to be flown. Use AMC FORM

41, Flight Authorization. If any waivers are required, forward the name of the approving official to QAI to be recorded on the FCF worksheet.

13.6.4. Coordinate with Current Operations and the respective squadron Standardization and Evaluation (DOV) for crew availability. Verify appropriately qualified aircrew members are selected for the FCF.

13.6.5. Ensure the size of the flight crew to include maintenance experts is limited to the minimum number of personnel required to complete the mission.

13.6.6. Coordinate with QAI to establish local guidance, profile, and pre-brief requirements for each FCF.

13.7. MOS/MXOOS Responsibilities. MOS/MXOOS will schedule the FCF through Current Operations Flight as early as possible but no later than the day prior to a requirement.

13.8. 62d Operations Support Squadron (OSS), Current Operations Flight (OSO) Responsibilities. The 62 OSS/OSO will task a flying squadron to perform the FCF and forward the qualification requirements received from OG/OGV. If a qualified crew is not available in any of the squadrons, OSS/OSO will notify OG/OGV to work the issue.

13.9. Flying Squadron After Receiving the Tasking from OSS/OSO Responsibilities.

13.9.1. Flying squadron will notify OSS/OSO of qualified crew availability.

13.9.2. FCF pilot will release or not release the aircraft for flight per T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy, and Procedures.*

13.10. OCF, IOC and HSTC.

13.10.1. OCFs and IOCs may be performed by experienced flight crews, not necessarily FCF-qualified crews.

13.10.2. HSTCs, when required, may be performed by a qualified aircrew if no possibility of takeoff is possible, or by a qualified FCF aircrew if the possibility of a takeoff exists. In the event a takeoff is possible, a flight plan shall be filed by the FCF aircrew.

13.11. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 14

AIRCRAFT IMPOUNDMENT AND QUARANTINE PROCEDURES

14.1. Introduction. This chapter establishes policies and procedures to be used when aircraft are impounded or quarantined at McChord AFB. OPR for this chapter is 62 MXG/QA (382-5361)

14.2. Procedures.

14.2.1. The 62 MXG/CC or designated Impoundment Authority in accordance with AFI 21-101, will direct impoundment/quarantine of aircraft/equipment and/or records anytime the impounding authority feels that extraordinary measures are needed to ensure the safe operating condition of an aircraft, engine, or piece of equipment.

14.2.1.1. Reasons for impoundment: Refer to AFI 21-101.

14.2.2. Reasons to *consider* impoundment:

14.2.2.1. Repeat/recur flight control discrepancies requiring extraordinary management actions as determined by the impoundment authority.

14.2.2.2. A flameout or engine failure after engine start until engine shutdown excluding maintenance runs.

14.2.2.3. In cases of aircraft departure from intended takeoff/landing surfaces (runway) onto a surface not designed nor intended to normally support landing loads.

14.2.2.4. Suspected or verified contamination of aircraft or equipment liquid oxygen (LOX), fuel, oil or hydraulic systems.

14.2.2.5. Abnormal, un-commanded, or potentially unsafe operation of an equipment or aircraft system.

14.3. Responsibilities.

14.3.1. Squadron commanders or designated representative will:

14.3.1.1. Select an Impoundment Official when an impoundment is warranted.

14.3.1.2. Relieve Impoundment Officials of all other duties.

14.3.1.3. Ensure maintenance supervisors and Production Superintendents coordinate with MOC to prevent cargo offload if an aircraft is suspected of contamination as outlined in section 14.2.2. or the aircraft is involved in physiological mishaps IAW AFI 21-101.

14.3.2. The Maintenance Operations Center (MOC) will:

14.3.2.1. Run the applicable quick reaction checklist (QRC).

14.3.2.2. Notify the Impounding Authority, Quality Assurance and Wing Safety of the mishap, incident, or serious anomaly.

14.3.2.3. Notify the Contracted Engine Management Branch (EMB), PS&D, and Maintenance Data System Analysts (G081) to ensure engine impoundment is annotated in the engine records.

14.3.2.4. Monitor impoundment status until the aircraft has been released by the Impoundment Release Authority.

14.3.2.5. Lock out aircraft forms in G081 utilizing screen 9012.

14.3.3. Debrief section will:

14.3.3.1. Maintain a copy of this instruction or chapter and be familiar with items requiring mandatory impoundment.

14.3.3.2. Notify the Production Superintendent, QA, and MOC of possible impoundment action.

14.3.3.3. Ensure aircrew remains in debrief until QA arrives.

14.3.4. Quality Assurance will:

14.3.4.1. Dispatch an inspector to the affected assets if the asset meets the criteria of this instruction or AFI 21-101. The inspector, in coordination with the production superintendent, should recommend or non-recommend impoundment to the proper authority.

14.3.4.2. Attend debrief for all in-flight emergencies and reportable discrepancies with impound potential to assist in the initial investigation.

14.3.4.3. Assist and monitor the impoundment as required. The level of involvement should correspond to the type/nature of the impoundment with close coordination with the impoundment official.

14.3.4.4. Impound all active and inactive records for aircraft/equipment when necessary.

14.3.4.5. Notify MOC when an impoundment is initiated.

14.3.4.6. Insert an AFTO Form 781A, Aircraft Maintenance Work Document, impoundment preprint bordered in red in front of the active AFTO Form 781A and an Impoundment/ Quarantine Official Checklist (Attachment 38), into the aircraft forms binder. For equipment forms and maintenance flow packages, insert the impoundment checklist and make the following entry: “Equipment Impounded by the 62 MXG/CC for “reason.”

14.3.4.7. Notify the 62 AW Foreign Object Damage (FOD) Noncommissioned Officer (NCO) of confirmed/suspected bird strikes to an engine, or of any damage/incident related to foreign objects.

14.3.4.8. Review the AFTO Form 781 series/applicable equipment forms and all paperwork for adequate corrective actions and completeness of required data before the impoundment authority releases the impoundment.

14.3.4.9. Notify MOC of an impoundment release.

14.3.4.10. Maintain the impoundment checklist and report for 2 years.

14.3.5. Impoundment Official/Team Chief will follow steps outlined in Attachment 38 and:

14.3.5.1. Receive an impoundment briefing from QA, review relevant instructions, and utilize all available resources needed to investigate the impoundment (including QA).

14.3.5.2. Review aircraft forms and ensure the aircraft can be made safe and no maintenance is performed that may hinder proper investigation. Determine what further maintenance can be performed and document prohibited maintenance actions in the AFTO Form 781A or appropriate equipment forms/maintenance work package.

14.3.5.3. Ensure MOC has notified 62d Airlift Wing Safety Office (62 AW/SE). NOTE: The 62 AW/SE will determine whether a formal investigation needs to be accomplished under the provisions of AFI 91-204, Safety Investigations and Reports. This does not preclude making the aircraft systems safe or downloading live ordnance. Do not alter, disrupt, tear down or test parts until cleared by the wing safety investigating officer. Work closely with the investigating officer to ensure timely repair of equipment while preserving valuable evidence.

14.3.5.4. Brief the Impound Authority daily on progress.

14.3.5.5. Verify the status of all parts removed and sent to repair shops for bench check. An AFTO Form 350, Repairable Item Processing Tag, bordered in red with the words "IMPOUNDED OPR: (Impoundment Official name), (duty phone)" written on the bottom of the tag will be attached with each part removed from an impounded aircraft/equipment. Coordinate with the QA office and contact the repair shop prior to determine the disposition of any parts. All suspected parts should be submitted for deficiency reporting through the QA product improvement office.

14.3.5.6. Use all sources necessary (Air Force Engineering and Technical Services, Boeing, etc.) and assemble the appropriate technicians. Only highly qualified technicians (typically 7-levels) will be appointed to work on impounded aircraft.

14.3.5.7. Review aircraft records and analyze data to identify any history or contributing discrepancies.

14.3.5.8. Control and limit access to impounded aircraft/equipment and historical records (jacket files).

14.3.5.9. Ensure all recoverable data is collected prior to operating systems that may dump stored information such as Standard Flight Data Recorder (SFDR), Quick Access Recorder (QAR), and Cockpit Voice Recorder (CVR). In cases where mishap investigation directs SFDR, QAR, and/or data removal, adhere to procedures contained in AFI 91-204. Do not release without Wing Safety approval in these situations.

14.3.5.10. Comply with the requirements of the Impoundment/Quarantine Official checklist and record all significant findings/events on the Impoundment/Quarantine Official checklist (Attachment 38). Ensure the completed checklist is returned to QA immediately after the impoundment is cleared.

14.3.5.11. Review the applicable maintenance forms for accuracy and adequacy of maintenance and corrective action. Sign off and initial the symbol block for the forms review.

14.3.5.12. Generate an impoundment report citing all findings, discoveries or any other pertinent information for distribution to the Impoundment Authority and ensure QA has a copy.

14.4. Aircraft Quarantine.

14.4.1. Aircraft will be quarantined when:

14.4.1.1. Actual animals or pests or evidence of suspected animal or pest infestation is on aircraft or if identified by Department of Agriculture or base public health officials as having possible biological contaminants from soils or organic debris.

14.4.1.2. Actual or suspected contaminated soil, organic debris or bio-hazard is on the aircraft.

14.4.2. For quarantine conditions, contact the MOC to run the quarantine QRC. Limit access to the affected aircraft until 62 MDS Bioenvironmental Engineering/United States Department of Agriculture (USDA) personnel can clear the condition. NOTE: Performance of normal ground handling, servicing, and maintenance of the aircraft must be coordinated and approved through 62 MXG/CC (and/or designee), USDA officer, and public health as applicable. Use every precaution necessary to prevent soils and organic matter from migrating.

14.5. Transient Aircraft Impoundment. Aircraft in transit at McChord AFB will only be impounded after contacting the aircraft commander and coordinating with the owning MXG/CC. When impoundment is necessary, specific procedures will be followed as outlined in AFI 21-101 and this instruction. For AMC–controlled aircraft, notify Tanker Airlift Control Center, Logistics Control (TACC/XOCL). The home station impoundment authority will appoint an impoundment official from the home station, but may request one from a closer main operating base.

14.6. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 15

TOOL CONTROL PROCEDURES

15.1. Introduction. This chapter establishes policies and procedures and assigns responsibilities for controlling tools to all units and personnel assigned or attached to the 62/446 AW and contract aircraft maintenance agencies. OPR for this chapter is 62 MXG/QAI (382-5361)

15.2. Responsibilities. Tool control is the responsibility of all personnel within the Wing. Commanders and supervisors at all levels will ensure compliance with this instruction.

15.3. Policies. Squadrons will establish a tool control program in accordance with this instruction and AFI 21-101. Squadrons will ensure the arrangement of all tools and equipment items to facilitate a quick inventory. The "show" (e.g., a shadow of the tool) and "know" (knowledge of tool or kit location) concept, as specified in AFI 21-101 will be used. Units with specific, published tool control guidance will follow it provided the intent of this instruction is achieved for inventory, lost tool notification, and control and accountability. In addition, "CTK" and "tool control" custodians are synonymous with one another.

15.4. Security Procedures.

15.4.1. Controlled areas are defined as hangars/shops that have the capability of being locked or flight line maintenance areas within the restricted area boundary.

15.4.1.1. Dispatchable tools, equipment and CTKs will be locked and secured when left unattended in areas that are not controlled.

15.4.1.2. For other tool security procedures, follow guidance in AFI21-101 and applicable MAJCOM supplements.

15.5. Control and Accountability Procedures.

15.5.1. Each squadron will ensure a primary and alternate composite tool kit (CTK) custodian is designated for applicable sections and flights that use tools during everyday operations (i.e., 62d Civil Engineering Squadron's Power Production Shop, 62d Logistics Readiness Squadron's Vehicle Maintenance Flight, Aircrew Flight Equipment, and all aircraft maintenance organizations). These custodians will be responsible for the operation of the tool control program in their respective areas. Technical orders (TOs), checklists, job guides, aircraft G files and laptops used for electronic and digital TOs are part of the tool control program when taken to the job site and for all aircraft maintenance operations. When removed from the immediate file area, TOs and/or Enhanced Technical Information System (ETIMS) laptops will be checked out by one of the following methods: AF IMT 1297, **Temporary Issue Hand Receipt,** chits, Tool Accountability System (TAS) TC MAX or AF Form 614, **Charge Out Record.**

15.5.2. A Master Inventory List (MIL) is required for each CTK, series of identical CTKs, dispatchable support equipment containing multiple parts, and dispatchable special tools assembled in a kit containing multiple parts (NOTE: When TAS is used, the master MIL resides in TAS but a hard copy of the MIL must reside on/with any dispatchable CTK, dispatchable kit or dispatchable support equipment containing multiple parts). Units are

required to electronically back up their respective databases at least once a month. This backup must be kept separate from the computer that houses the tool control database.

15.5.2.1. For those sections using manual tracking and not TAS, tools/equipment and tool kits will contain a MIL, McChord AFB IMT 140, CTK Inventory and Control Log; and a McChord AFB IMT 146, Missing/Removed Tool Log.

15.5.2.2. All dispatchable equipment or special tools not physically located in a tool room due to their size or function will be on the master MIL.

15.5.2.3. Non-aircraft maintenance work centers will use the AF IMT 1297, a chit control system, or locally developed method providing positive control of tools and tool kits removed from the work center, removed from an individual tool kit or shadow board beyond the required inventory interval.

15.5.2.4. At no time will the same person sign out and sign in their own CTK(s) or equipment. In sections with minimal personnel or a single person on shift, utilize the squadron production superintendent or neighboring section supervisor to conduct turn-in inventories.

15.5.2.5. Blue dye is not specified for use in the C-17 engine blade-blending process.

15.5.2.6. Weapons load crew crimpers, die and lead seals are not utilized on the C-17 or by munitions personnel.

15.6. Inventory Procedures.

15.6.1. Non-aircraft maintenance work centers with existing directives will follow their unit-published guidance and ensure the inventory intent of this instruction is completely met or exceeded.

15.6.2. Maintenance work center supervisors will ensure that inventories are accomplished IAW AFI 21-101 and applicable MAJCOM supplements in addition to the following:

15.6.2.1. Personnel issued tools or equipment will be responsible for all items issued until turn-in. Individuals will perform an inventory of all CTKs or equipment when issued for use, at the completion of a job or task and when leaving an aircraft or job site. Individuals, in conjunction with tool room personnel, will perform an inventory of all CTKs or equipment when returned to the tool room.

15.6.2.2. As a minimum, CTK custodians will conduct a complete and comprehensive inventory of all tools, equipment and CTKs annually.

15.6.2.3. When the CTK custodian changes, a complete and comprehensive inventory of all tools, equipment and CTKs will be accomplished (to include mobility kits). These inventories will be documented by date and name in TAS (if applicable) and/or on a separate memorandum for record filed in the CTK custodian's program continuity book.

15.6.2.4. Mobility kits will be inventoried annually. Units should consider a complete inventory prior to Aerospace Expeditionary Force deployments. Mobility kits will be sealed after they have been inspected. Sealing will be accomplished by a CTK custodian or Section/Flight chief. The seal will include date sealed, employee number, and signature and will be tracked by the CTK custodian. If a mobility kit seal is found broken at any time, a new inventory will be immediately accomplished and the kit resealed.

15.6.2.5. Tool room personnel will inventory and account for all items at the beginning and end of each shift. All shift inventories will be documented on the McChord AFB IMT 140, CTK Inventory and Control Log or reconciled in TAS (whichever is applicable). Dispatchable tool kits and equipment must be accounted for but do not require an inventory during shift change if already inventoried on turn-in or not used during the shift.

15.7. Warranted Tool Management.

15.7.1. The CTK custodian(s) controls warranty tools. Identify warranty tools and ensure broken or damaged warranty tools are isolated from other broken or damaged tools and under strict control until replaced or exchanged.

15.7.1.1. Section TODAs are responsible for ensuring that E-tools with documented discrepancies are forwarded to the LOGNET contractor for repair within 5 duty days.

15.7.1.2. Section TODA's and CTK custodians are responsible for ensuring that E-Tools are inspected and cleaned IAW Attachment 54 and that batteries are charged IAW Attachment 55.

15.8. Procedures for Replacement, Expendable and Consumable Hand Tools, HAZMAT and Other Items in CTKs.

15.8.1. Tool replacement will be a one-for-one swap and is the responsibility of the CTK custodian. De-etching of broken tools and etching of new tools is also the responsibility of the CTK custodian but may be delegated to the work center supervisor.

15.8.1.1. Limited quantities of spare/replacement tools are authorized to be retained within the work center's tool control area. Each work center will maintain a current inventory of the type and quantity of non-etched spare/replacement tools. The CTK custodian will ensure strict control of spare/replacement tools.

15.8.2. Expendable and consumable items (e.g., rubber gloves, lint cloth, cotton swabs, etc.) used to perform aircraft maintenance and not included in a CTK will be accountable. Units will establish a means for positive control of consumables by shift (e.g., AF IMT 1297, TAS, sign-out/sign-in log, etc.). Regardless of condition, these items will be returned to the tool room for FOD control purposes. Proper disposal will be accomplished by tool room personnel.

15.8.3. At no time after issue will tools or equipment be passed from one individual to another without a documented hands-on inventory and approval from a work center SNCO or civilian equivalent. Special tools or equipment remaining in place for safety or task continuity will be chitted, hand-receipted or bar-coded out by the individual accepting responsibility and usually falls upon on-coming shift personnel.

15.9. Lost or Missing Tool/Item Procedures. Any item lost or discovered missing in the aircraft maintenance complex, airfield operating area or on aircraft can cause foreign object damage to the aircraft. It is imperative that all items lost or missing in these areas are immediately reported. It is especially important to report personally issued equipment items such as personal protective equipment (PPE), aircrew flying and non-flying gear and special duty equipment such as aircrew checklists. Immediately upon discovering a missing item or tool, the person identifying the missing or lost item or tool will search the immediate work area.

15.9.1. For Mission Support Group and Operations Group personnel: If the missing tool/item is not found after the initial search (within 30 minutes) and was lost in the aircraft maintenance complex or in the vicinity of the aircraft operating areas, the procedures are as follows:

15.9.1.1. The individual who identifies the missing item will immediately notify their supervisor and tool control custodian or monitor.

15.9.1.2. Initiate McChord AFB IMT 43, Lost Tool/Object Report, and immediately notify the MOC to obtain a control number. Personnel will provide as much pertinent information regarding the type of tool or equipment and where lost. NOTE: Units with specific, published lost tool reporting forms will utilize them provided the full lost tool reporting intent of this instruction is met.

15.9.1.3. After a thorough search is completed and the tool or item is found, the McChord AFB IMT 43 will be closed out by the appropriate supervision level and a copy will be immediately forwarded or faxed to on-station MXG/QA flight (if applicable) and home station QA.

15.9.1.4. If the item is not found, the McChord AFB IMT 43 will not be closed out. The CTK custodian will maintain the original on file and forward a copy to on-station MXG/QA flight (if applicable) and home station QA. These forms will remain active until the item is found. When the item is found, the original form will be completed and closed, and a copy will be forwarded to the applicable QA office for filing and accountability. If, after one year the tool is still not found, the report will be closed. NOTE: The CTK custodian will maintain all closed reports for found items on file for a period of 1 year after the close-out date.

15.9.2. For Maintenance Group and Aircrew Flight Equipment personnel, the procedures are as follows:

15.9.2.1. The person identifying the missing or lost item or tool will notify the shop chief, expediter, production superintendent or line chief. If the item is not found after completing the initial search (within 30 minutes), initiate a McChord AFB IMT 43 and notify the MOC for a control number.

15.9.2.2. When making entries into support equipment or aircraft forms, include a description of the lost item, the ID number marked on the item and the vicinity or last known location where the item was seen or used. NOTE: Impoundment authorities will determine if impoundment is required on a case-by-case basis.

15.9.2.3. If the item is found, the appropriate (AMXS/MXS) Production Superintendent or Shop Chief supervising the search will annotate the aircraft or equipment forms with the corrective action, clear the Red X, close out McChord AFB IMT 43 and forward a completed copy to MXG/QA.

15.9.2.4. If the item is not found, the appropriate squadron Operations Officer (OO)/Maintenance Superintendent will sign off the Red X and enter in the corrective action: "Extensive search conducted and item not found. Aircraft released for flight IAW 62 MAFBI 21-43, Para 10.9.2.4." In addition, the OO/Mx Supt also signs and dates

the McChord AFB IMT 43 signifying the search has been terminated. Once complete, the work center supervisor will notify the MOC and MXG/QA.

15.9.2.4.1. The CTK custodian will maintain the original McChord AFB IMT 43 on file and forward a copy to MXG/QA. These forms will remain active until the item is found. When the item is found, the original form will be completed/closed and forwarded to MXG/QA for filing. NOTE: All closed or active reports will remain on file for a period of 1 year after the OO/Mx Supt have signed and dated the McChord AFB IMT 43.

15.9.2.5. If an aircraft is taxiing or in flight and an individual who was performing maintenance on the aircraft discovers an item is lost or missing, accomplish the following:

15.9.2.5.1. Immediately notify the MOC by the quickest means possible, providing a description of the lost item, the vicinity (if known) of the missing item and the aircraft systems potentially affected.

15.9.2.5.2. The MOC will coordinate with the MXG/CC or designated representative and AMXS/MXS supervision to make a determination as to whether the aircraft needs to return to the point of origin. The MOC will relay this information to the Command Post Duty Officer.

15.9.3. Upon notification of a lost/missing tool/item, MOC will:

15.9.3.1. Log the information for the lost/missing item in the Lost/Missing Tool/Item Log.

15.9.3.2. Assign a control number for the lost tool report and pass it to the CTK custodian and QA. Control numbers will consist of 62AW09(Year), 08(Month)and 01(two-digit number). *EXAMPLE*: 62AW090801.

15.9.3.3. Notify MXG/QA of the lost/missing item.

15.10. Assignment of Equipment Identification Designators (EID) for CTKs, non-CA/CRL Equipment and CTK Numbers for Tools.

15.10.1. Non-aircraft maintenance work centers will mark all tools and equipment with the squadron designator, flight, and element, and if used, a dispatchable tool kit number. Units with specific, published tool control guidance will follow it provided the intent of this instruction for tool marking is fully met.

15.10.2. Numbers will be applied on all kits and toolboxes in easy-to-read letters and numbers that are visible when boxes are closed or locked. Toolboxes used or transported anywhere on the flight line will have reflective tape installed in such a way that it is visible from all four sides.

15.10.3. Mobility toolboxes. Units with mobility boxes will follow the same identification procedures as outlined in this instruction and have the weight and cubic inches applied on each end of the box IAW AFI 10-403, *Deployment Planning and Execution*.

15.10.4. Units assigned or attached to the Maintenance Group and Aircrew Flight Equipment will use the Worldwide Identifier (WWID) prefix and additional digits to create a 9-digit identification number for each tool room, dispatch able kit and special equipment. These 9-

digit numbers constitute the EID; a critical element designed to allow tools and equipment to be easily identified both at home station and abroad. **NOTE:** The MXG/QA office assigns WWID numbers to all units within the maintenance complex and to Aircrew Flight Equipment (see Attachment 39).

15.10.5. All tools too small to mark will be identified on the MIL by an asterisk (e.g., Allen wrenches, apex bits, etc.).

15.10.6. On tools where marking the kit numbering is impractical due to their size or hardness (for example, apex bits, drill bits, and Allen wrenches), the tools will be placed in a container and the container will be marked with its EID. The container will normally count as one item. However, if the container has a lid or cover that can be removed and separated, it must be marked and counted as two items. Tool sets are identified on the MIL by total number of items in the set (e.g., Allen Wrench Set - 9 each allen wrenches + container & lid).

15.10.7. If chits/dog tags/identification tags or similar tags, dust caps or streamers are attached to tools or equipment, they will be secured in a manner that will preclude any possibility of FOD. Locks, keys and tie down straps, if not permanently attached, will be marked or etched with the appropriate CTK number. All items are listed on the MIL.

15.10.8. All shadow boards will have tool locations silhouetted and marked with the WWID (see Attachment 39).

15.10.9. For all other tool identification and marking, consult AFI 21-101 and applicable MAJCOM supplements.

15.11. Procedures for Issue and Control of PPE. Aircrew personal protective equipment will be marked and controlled IAW technical orders, AFI 21-101 (and applicable MAJCOM supplements) and local instructions. Units will determine applicable accountability and turn-in requirements. PPE issued from a tool room or CTK will be issued and controlled as any other dispatchable item or tool. All items will be accounted for prior to entry into and departure from an aircraft.

15.12. Rag Control Procedures.

15.12.1. In aircraft maintenance work centers, shop towels and rags are not disposable or consumable and will be controlled as tools and replaced on a one-for-one basis. Other work centers working anywhere within the boundary of the airfield will utilize a locally developed means of positive rag control that focuses on accountability.

15.12.2. Shop towels and rags will be issued in a container or be attached to a locking device going through the rags. Either the container or locking device will indicate the number of rags.

15.13. Procedures to Procure Tools. CTK custodians and specifically designated government purchase cardholders are the only personnel authorized to procure tools.

15.14. Locally Manufactured Tools/Equipment.

15.14.1. Requests for locally manufactured aircraft maintenance tools not already specified in technical data will be coordinated through the MXG/QA office. The MXG/CC and/or their designated representative have approval authority. Process local manufacture requests IAW Chapter 16 of this instruction.

15.15. Depot Team, Factory Representatives and CFT Procedures.

15.15.1. When a depot team, factory representative, or contract field team works on aircraft or equipment, they will comply with applicable Air Force procedures for tool control and accountability or a signed Statement of Work procedure. If visiting maintenance personnel have no provisions for tool control and accountability, the visiting team chief will coordinate with MXG/QA to develop a program. The guidance developed will be documented by letter, signed by the MXG/QA OIC or Superintendent and the team chief and maintained for the duration of the stay.

15.16. Multiple Work Centers and/or Multiple Support Sections.

15.16.1. Work centers are limited to a single tool room where tools and tool kits will be issued and controlled from a single location in a work center. Non-aircraft maintenance work centers without a specific dedicated tool room space will utilize available space as required with tool storage and organization designed to facilitate control and accountability centralized within existing facility space.

15.17. Decentralized Locations.

15.17.1. Units may wish to store oversized CTKs or equipment outside of a designated tool room when size makes it impractical to store within. In these situations, all other requirements (e.g., control, use, accountability, etc.) are identical. The CTK custodian must ensure all program requirements meet the intent of AFI21-101 (and applicable MAJCOM supplements) and this instruction.

15.18. CDDAR and Hydrazine Response Equipment.

15.18.1. CDDAR trailers are controlled by HSC CTK as any other dispatchable tool kit. Tool kits required for crash response are daily use CTKs controlled through the tool room. In addition, no hydrazine response capability exists at McChord.

15.19. Controlling Access to Tool Rooms.

15.19.1. Tool rooms will be locked at all times when not occupied by tool room personnel. Units will establish procedures for situations where access is required when a tool room employee is absent. Typically, Pro Supers or SNCOs should have control or access in these situations. See the control and accountability section above for more guidance.

15.20. Miscellaneous Tool Procedures.

15.20.1. Personal tools (e.g., flashlights, Leatherman, buck knives, etc.) not controlled through this instruction or AFI21-101:

15.20.1.1. Will not be issued to aircraft maintenance personnel and are not authorized for use on the flight line or in any aircraft maintenance area.

15.20.1.2. Can be issued to personnel for the performance of their assigned duties (e.g., communication squadron cable maintenance, security forces, aerial port transporters, etc.). These tools must be marked with the individual's last name, squadron and last four digits of their social security number. Issued tools with surfaces too small for complete markings will be identified with a locally devised code associating unit and individual. Members and shift supervisors are responsible and accountable for ensuring these items are secure at all times, particularly when in the boundary of the airfield. Aircrew tools

worn and continuously controlled in-flight require specific marking as required by AFI 21-101 and unit instructions. All items will be accounted for prior to entry into and departure from an aircraft. If at any time an item is thought to be missing, immediately notify the Command Post.

15.20.2. Any equipment or tools utilizing an AFTO Forms 244/245, Industrial/Support Equipment Record, will have the Supervisory Review (section IV) complied with after every 180 days or when new or replacement forms are generated.

15.20.3. Equipment forms may be maintained in a separate location when frequent equipment usage and/or size makes it impractical for the forms to accompany the equipment. AFTO Forms 244/245 not attached to such equipment will be stored in a central file located within CTKs.

15.20.4. All padlocks will be attached or affixed by a cable or chain.

15.21. Inspections and Serviceability.

15.21.1. Inspections will consist of inspecting all tools and kits for serviceability according to TO 32-1-101, *Use and Care of Hand Tools and Measuring Tool.* In addition, inspect each tool to ensure its etchings match the tool control number (EID) or owning unit number or acronym (non-aircraft maintenance units).

15.21.2. Inspect tool kits and all dispatchable equipment in aircraft maintenance work centers every 90-days for the following:

15.21.2.1. Correct etching. Particular attention will be given to ensure etching is clear, easily identifiable and not double etched.

15.21.2.2. Missing or unserviceable tools. Unserviceable tools are defined as tools that cannot be safely and properly used for their intended purpose. For example, a flat-head screwdriver with a tip half-broken would be considered unserviceable.

15.21.2.3. Obvious major corrosion. Tools that have so much corrosion that affects the serviceability of the tool or require a wire brush to remove would be considered major corrosion. Corrosion that can be wiped away with a rag is minor corrosion.

15.21.2.4. Overdue inspections (e.g., PMEL or shelf life).

15.21.2.5. Tool cutouts or shadowing no longer in-use and not documented.

15.21.2.6. Locks that are broken or provide no security.

15.21.2.7. Verify MIL contents match the inventory and are documented properly.

15.21.2.8. Grease guns, oil cans or other products not marked appropriately.

15.21.2.9. Verify all required forms are inside the CTK (if applicable) and documented correctly.

15.21.2.10. Foreign objects particularly under pallets/tool cutouts, in FOD pouches and under tools.

15.22. Chit Usage (non-Aircraft Maintenance Units Only).

15.22.1. Color-coded chits or placards, when this option is utilized, will be used to account for removed or missing tools (lost, damaged, backordered, etc.) from the designated tool room location in the following manner:

15.22.1.1. Red Chit/placard – Missing, Broken, and Removed. Missing tools requires submission of McChord AFB IMT 43 (or equivalent), Lost Tool/Items Investigation Record.

15.22.1.2. Yellow Chit/placard – Deployed.

15.22.1.3. White Chit/placard – Signed out on an AF IMT 1297.

15.22.1.4. Green Chit/placard – Calibration (PMEL).

15.22.2. Color-Coded Chit/Placard Control Log will be used to record and account for color-coded chit/placard and to maintain status of tools on backorder.

15.22.3. Chits will not leave the tool room or the composite tool kit.

15.22.4. Use McChord AFB IMT 146 (or equivalent) to record removed, broken, or lost tools for dispatchable tool kits and equipment. At no time will chits be maintained, stored or used with a dispatchable tool kit or dispatchable equipment.

15.22.5. If the chit or placard system is used in lieu of the bar code system, permanent identification control numbers will be marked onto each chit or placard. Plastic or metal embossing tape will not be used. Chit or placard identification numbers will be prefixed (see Attachment 41). Perform and document an inventory of all chits or placards at the beginning and end of each work shift.

15.22.6. A set of chits will be maintained for each section's tool room or composite tool kit. These chits will be stored on a shadow board either in the tool room or as part of the composite tool kit.

15.22.6.1. Chits are assigned on an individual basis by the supporting tool room. Use these chits to check out tools and equipment.

15.22.6.2. In the absence of a bar code system, chits or placards are the preferred method of the "show and know" concept. An AF IMT 1297 may be used in place of chits for checkout of dispatchable tool kits, special tools or equipment when chits are not available. Chits will be used on shadow boards.

15.22.6.3. Work centers using chits will use an AF IMT 1297 or an additional set of chits when an individual requires additional tools or special equipment and has exhausted their assigned chits for a task. These chits will be signed out to the individual needing the equipment or special tools.

15.22.6.4. The CTK custodian will control spare and blank chits and placards to prevent unauthorized use. A current roster of all work center chit numbers reflecting appropriate assignments to individuals will be maintained by the work center.

15.23. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 16

LOCAL MANUFACTURE

16.1. Introduction. This chapter implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*, outlining and directing procedures and responsibilities to local manufacture (LM) mission-essential/nonessential aircraft parts, tools, equipment, or base support items at McChord AFB. Duties and responsibilities are assigned in accordance with Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management.* This instruction provides the directions required for the LM program to fulfill mission-essential requirements for non-procurable items. Items suitable for LM include: components with a source, maintenance, and recoverability (SMR) code in the technical order (TO) as requiring LM; items specified in locally manufactured munitions equipment (LMME) publications and locally designed tools and equipment not feasible for custom or commercial manufacture. LM is not intended to replace existing supply or contracting channels. LM is an essential part of unit maintenance support. This instruction provides the measures and controls needed to effectively accomplish the LM program. OPR for this chapter is 62 MXS/MXMF (DSN 382-3332, Commercial 253-982-3332)

16.2. Responsibilities.

16.2.1. 62d Maintenance Group Commander (MXG/CC) will:

16.2.1.1. Ensure LM procedures are established including annual review of items affecting aircraft generation mission velocity worldwide, and, where possible pre-make LM items to help prevent or reduce launch delays. Ensure aircraft maintainers and maintenance supervision are involved with the annual LM procedures review.

16.2.1.2. Designate 62d Maintenance Squadron/62d Aircraft Maintenance Squadron (MXS/AMXS) Operations Officers (OO), Maintenance Superintendents, Maintenance Directors, or Production Superintendents as LM approval authority. This paragraph serves as the delegation of the LM approval authority.

16.2.1.3. Ensure LM of procurable aircraft parts (SMR coded PA***) is restricted to aircraft mission capable (MICAP) requirements. In special circumstances, authorization may be given to LM MICAP aircraft parts (e.g.: excessive lead time or unacceptable supply status). Review paragraph 16.3.7 for MICAP LM procedures.

16.2.1.4. Designate OO, Maintenance Superintendent, or Maintenance Director as LM approval authority to fabricate and modify special tools and equipment not specified by technical orders, but carry a load, change torque, or present potential damage to government resources. These requests are approved or disapproved after coordinating with 62 MXG Quality Assurance (QA) to justify the requester's needs and intended use. This paragraph serves as the delegation of the LM approval authority to fabricate and modify special tools and equipment not specified by technical orders, but carry a load, change torque, or present potential damage to government resources.

16.2.1.5. Designate the MXS manufacturing elements NCOIC or designee as LM approval authority to fabricate or modify tools and equipment authorized or specified by TO.

16.2.1.6. Designate 62 MXS Aircraft Structural Maintenance, Metals Technology, and 62 OSS Aircrew Flight Equipment Section Chiefs as LM approval authority to fabricate specialty tools and items required to facilitate their section's aircraft and equipment maintenance provided these tools do not , carry a load, change torque, remain installed on aircraft permanently, or present potential damage to government resources. These sections routinely accomplish maintenance requiring use of custom-made templates, forming/holding fixtures, hardware extraction/installation tools, and alignment devices. Manufacture of specialty items is covered in technical school training, career development course books, general shop methods and procedures, and general technical orders. This paragraph serves as the delegation of the LM approval authority to fabricate specialty tools and items required to facilitate these section's aircraft and equipment maintenance.

16.2.2. MXS OO, Maintenance Superintendent, Maintenance Director will:

16.2.2.1. Ensure sufficient LM capability exists to meet mission requirements. Ensure correct procedures are followed, validate requests, and prevent abuses of the LM process.

16.2.2.2. Approve or disapprove LM requests to fabricate and modify tools and or equipment not specified by technical orders but carry a load, change torque, or present potential damage to government resources. These requests are approved or disapproved after coordinating with QA to validate the requester's needs and intended use.

16.2.2.3. 62 AMXS or MXS OO, Maintenance Superintendents, or Maintenance Directors will:

16.2.2.3.1. Approve or disapprove LM requests for aircraft parts specified in a TO not having LM SMR codes specified in TO 00-25-195, *Air Force Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipment*. In special circumstances, authorization may be given to LM MICAP aircraft parts that are SMR coded as procurable (e.g.: excessive lead time or unacceptable supply status).

16.2.2.3.2. Ensure disapproved LM requests include specific justification why the LM cannot or should not be performed.

16.3. Procedures:

16.3.1. LM requests are normally restricted to mission-essential aircraft parts, related support systems, and depot-directed, field-level manufacture items. The SMR code defines manufacturing responsibility. The first two digits determine whether a part is manufactured or procurable and by what organization. 62 MXS normally manufactures SMR codes "MFO", "MFF" and "AFO". Items SMR coded "XB" are not typically procured through normal supply channels and will be reviewed for local manufacture on a case by case basis. The responsible local manufacture shop will have approval/disapproval authority based upon material availability and manufacturing capability.

16.3.1.1. SMR codes are listed in 1C-17A-4 series illustrated parts breakdown (IPB) TOs. Translations of SMR codes are contained in TO 00-25-195. Aircraft LM requests with a valid LM SMR code require creating a job control number (JCN) in the G081 Management Information System and processing through the 62 LRS SharePoint site. No

further approval is necessary, but LM A0A paperwork must be processed through the Aircraft Parts Store (LRS/APS), to recoup material cost expenditures.

16.3.1.2. The primary LM fabrication sections are the 62d Maintenance Squadron (62 MXS) Aircraft Structural Maintenance, Metals Technology, Electro-Environmental, Pneudraulics Sections and the 62 OSS Aircrew Flight Equipment Section.

16.3.1.3. Requestor should first contact the appropriate repair shop to verify that the damaged component must be replaced via local manufacture. In many cases, on-aircraft repairs will eliminate the need to locally manufacture a component that is SMR coded for local manufacture. If local manufacture must be accomplished, proceed as follows:

16.3.2. Routine requests to LM Aircraft Parts.

16.3.2.1. Requester will:

16.3.2.1.1. First verify the component can be repaired rather than replaced via local manufacture. Many components SMR coded as MFO, MFF or AFO can be repaired by Aircraft Structural Maintenance (ASM). Coordinate efforts with ASM personnel (Radio Call Sign Mike 16) to determine reparability prior to initiating local manufacture request.

16.3.2.1.2. If a component must be locally manufactured, request the item through the LRS SharePoint site. Go to: **https://62msg.mcchord.af.mil/62LRS/LGRM/** and select "Local Manufacture Order Form". Initiate the request by selecting "New Item."

16.3.2.1.3. Completing the local manufacture order form: NOTE: The manufacturing shop requires a current blueprint attached to the request to produce the part. Contact Boeing engineering to obtain an electronic (PDF) version of the blueprint. Ensure that the notes list (NL) and parts list (PL) are included. Once received, save the blueprint to a location where it may be retrieved.

16.3.2.1.3.1. Annotate all items on the form identified with an asterisk * and the start date/time. All questions are self explanatory. NOTE: Under "status of request" the initiator will select ONLY ONE of the following options:

16.3.2.1.3.2. Click on "Attach file" at the top of the form. Browse to the saved blueprint and attach it to the request.

16.3.2.1.3.3. Click on "Save and close" – The request has been submitted.

16.3.2.1.4. For MICAP aircraft parts, if the item does not have a valid LM SMR code in the TO, and/or lead time is long, obtain LM approval from MXG/CC or designated approval authority. NOTE: For LM parts requiring a high degree of accuracy (i.e., metal hydraulic tubing or airframe structural pieces), the requester may need to provide a sample to the manufacturing section to ensure precise fabrication/fit (alignment).

16.3.2.1.5. Processing the request: The fabricating shop will review the LM request and attached blueprints to assess manufacture capability. Shop stock will be checked to determine availability of materials and/or bits/pieces required to produce the part.

If a sample is required, the fabricating shop will notify the requestor. The request will be updated by selecting "Edit item" at the top of the form.

16.3.2.1.6. If the part can be fabricated: The approving supervisor from the manufacturing shop will check YES under "OK to Local Man?" and enter their name on the form. Their work center will be identified if parts/materials must be ordered and an ETIC will be established. If parts/materials must be ordered, all required information will be entered in the space provided on the form. Change the status of the job by selecting "Awaiting LRS/APS" then select "Save and close" at the top of the form.

16.3.2.1.6.1. Once LRS/APS sections have processed the request, the requesting work center will create an AFTO 350 tag in G081 and change the status of request to "Awaiting manufacturing".

16.3.2.1.7. If the part cannot be fabricated: Manufacturing shop representative will select "Rejected" under "Status of Request", annotate reason(s) in space provided on the form and then select "OK" and close. Requesting work center should be contacted and informed that the item must be sourced elsewhere. NOTE: The requestor is ultimately responsible for utilizing the item as specified in the TO and ensuring the authorization remains current while the item is in use.

16.3.2.1.8. Upon receipt by LRS, bits/pieces will be delivered to designated fabricating shop. To facilitate identification, workorder tracking (Y number) will be identified in the mark for field on the Supply Asset Tracking System (SATS) label tag.

16.3.2.1.9. Notify the Flight Service Center (FSC) upon receipt of all parts so the job can be put into the manufacturing shop for completion. Determine the classification of any engineering data retrieved in accordance with AFI 21-401, *Engineering Data Storage, Distribution, and Control.* Handle data in accordance with classification directives.

16.3.3. Requests to LM or Modify Tool and Equipment Items. The requester will:

16.3.3.1. Coordinate LM requests to fabricate or modify tools and equipment not specified by TO with QA. Route requests through QA with picture, technical drawing, or description of the item and an explanation of intended usage attached to the request on the LRS SharePoint site. Route all requests to fabricate and modify tools or equipment not specified by TOs in the following manner: Manufacturing Section, Requester's Maintenance Superintendent or designee, Quality Assurance (to coordinate request and advise MXS Maintenance Supervision on the item's validity), MXS Operations Officer, Maintenance Superintendent, or Maintenance Director for approval.

16.3.3.2. Verify parts availability and order all necessary parts and materials specified on the LM request using the 690 account, processed through LRS. If required items are procured with a Government Purchase Card (GPC), the requestor will procure all needed materials and forward to manufacturing shop when received. The requestor is responsible for providing written confirmation that material meets military specifications stated in TOs or engineering authorizations when materials are obtained outside of supply channels. Tubing stock and metal is often difficult to research through FEDLOG. If

necessary, fabricating shop will assist requestor in determining correct NSN or local Vendor Source.

16.3.4. LM requests for non-aircraft parts. The requester will order all required materials against their unit supply account or utilize their Government Purchase Card to procure needed bits/pieces/materials. LRS/APS will not order materials for non-aircraft parts against 690LM account. Route received materials to the fabricating section.

16.3.5. Manufacturing Section Chief or designee will:

16.3.5.1. Coordinate LM requests applicable to the section and provide justification for refused LM requests. If required, manufacturing shop will assist requestor with specifics regarding materials and their sources, list required materials needed, and annotate the SharePoint LM request as required

16.3.5.2. Notify the Flight Service Center (FSC) upon receipt of all parts so the job can be put into the manufacturing shop for completion. Determine the classification of any engineering data retrieved in accordance with AFI 21-401, *Engineering Data Storage, Distribution, and Control*. Handle data in accordance with classification directives.

16.3.5.3. Change job status in G081 when materials are received and work is started.

16.3.5.4. Fill out, sign, and attach DD Form 1574, *Serviceable Tag—Material*, to the completed LM item and annotate the cost of the item(s) on the A0A .

16.3.5.5. Ensure shift supervisors monitor the LRS LM SharePoint site on a regular basis to achieve timely processing of all LM requests

16.3.5.6. Coordinate with respective squadron resource advisor to annually capture local purchase cost of materials.

16.3.6. 62 LRS/LGRMA will:

16.3.6.1. DELETED

16.3.6.2. If applicable, LRS/APS will establish the next L or P serialized number as the National Stock Number (NSN). Load the part number record. The Nomenclature /Description needs to be loaded with Sample Available (SA) or Sample Required (SR) IAW AFMAN 23-110, *USAF Supply Manual*, Vol. II, Part 2, chapter 27, paragraph 27.54.5. Process the issue request for local manufacture end item and annotate the AF IMT 2005 or DD Form 1348-6. 16.3.6.3. LRS/APS will process the issue request for local manufacture end item, annotate the AF IMT 2005 and file one copy of the DD Form 1348-6.

16.3.6.3. LRS/APS will process the issue request for local manufacture end item, annotate the AF IMT 2005, and file one copy of the DD Form 1348-6. Then take the entire completed package to FSC to create an AFTO 350 tag in G081 and work scheduling and follow-ups on all LM requests.

16.3.6.4. The A0A/A0E are transaction identification codes (TRIC) and serve as both the requisition and receipt document and must contain the statement: "Price and the estimated delivery date or estimated completion date (EDD or ECD)," provided by the fabricating activity.

16.3.6.5. Upon receipt of a new A0A, FSC will forward completed A0A/A0E to the manufacturing shop and change the status of request to "Awaiting AFTO 350 tag from requesting work center".

16.3.6.6. Upon receiving a copy of A0A/A0E annotated with the EDD or ECD from the manufacturing activity, process a TRIC AE1, LM Status JBD/JBT, to record the status provided by maintenance.

16.3.6.7. Retrieve LM JBD listing from Discoverer Plus to identify and validate all requisitions with a LM JBD routing identifier. Reconcile with the manufacturing shop or requester at least monthly. NOTE: JBD is a code identifying a field-level manufactured item.

16.3.6.8. Upon notification of completed LM item, Pickup and Delivery driver will pick up the asset and the completed A0A/A0E.

16.3.6.9. The Receiving Section will process receipt IAW AFMAN 23-110, Vol 2, Part 2, Chapter 10.

16.3.6.10. Receiving will process due-out release (DOR) documentation and Pick-Up and Delivery will deliver property to the requestor.

16.3.7. MICAPs:

16.3.7.1. For MICAP aircraft parts, if the item does not have a valid LM SMR code in the TO, and/or lead time is long, obtain LM approval from MXG/CC or designated approval authority.

16.3.7.2. MICAP requests for any locally manufactured part regardless of SMR code will not be processed through the LRS SharePoint. Verification will first be made with the appropriate repair shop that on-aircraft repair will not correct the discrepancy.

16.3.7.3. Should MICAP local manufacture of a component be required, the requestor will coordinate directly with MXS Production Superintendent (radio call sign MIKE 2). After coordination with the MXS Production Superintendent and verification by the manufacturing shop that the part can be fabricated, requester will place a request with LRS/APS using Local Manufacture Checksheet. (Attachment 53).

16.3.7.4. Once the request has been processed and an A0A/A0E is produced, APS will contact the MXS Production Superintendent for pick up of the A0A/A0E.

16.3.7.5. Once fabrication is complete, the final manufacturing shop will annotate the cost of the item on the A0A/A0E and coordinate with the MXS Production Superintendent to arrange pick-up/delivery of the part. Upon delivery/receipt of the part, the requestor will sign the A0A/A0E. The MXS Production Superintendent will ensure the A0A/A0E is hand carried or sent via facsimile to LRS at DSN 382-5785.

16.3.7.6. LRS After-hours Procedures.

16.3.7.6.1. LM request will be processed as normal, but A0A/A0E will be held until dayshift and forwarded to FSC except for MICAP conditions.

16.3.7.6.2. After regular duty hours, LRS/APS will process a receipt for LM of a MICAP grounding condition item; they will use the A0A/A0E as a signature for due-out release.

16.3.8. Local Manufacture Cancellation/Disapproval Process. If for some reason the request cannot be made or other action is required, the MXS manufacturing section will edit the request on the LRS SharePoint site to specify reason for rejection.

16.3.8.1. Reasons for disapproval and required actions are:

16.3.8.1.1. Beyond base capability. Assign Requisition Exception (REX) 2.

16.3.8.1.2. Incorrect RID. Provide correct RID.

16.3.8.1.3. Order Component. Assign issue exception code (IEX) "D" and requisition exception code (REX) "4." Change nomenclature to read: Order component

16.3.8.1.4. Cannot obtain drawing or sample required to LM item.

16.3.8.1.5. DELETED

16.3.8.1.6. DELETED

16.3.8.1.7. DELETED

16.3.8.2. DELETED

16.3.8.3. DELETED

16.3.9. After-Hours Procedures. Once manufacturing capability has been validated, LRS/APS will assign document number and update G081 to show part is on order.

16.4. LRS Resource Advisor. Will verify D04, *Daily Transaction Register*, inputs for 1PU Direct Charge transfer. Follow up with Receiving Section if funds are not transferred.

16.5. QA will:

16.5.1. Refer to interim changes and supplements to AFI 21-101 as applicable to LM tools and equipment.

16.5.2. Coordinate requests to approve and use locally designed tools or equipment that carry loads, change torque, or present potential to damage government resources. Group Commanders or their designated representative will have approval authority. NOTE: This procedure does not apply to LM, modification, or design of tools authorized in specific technical data.

16.6. CTK and Equipment Custodians. Will review items manufactured and requirements in this instruction biennially for applicability and current configuration. This inspection will be documented in TAS or by memorandum

16.7. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 17

C-17A CRITICAL TIRE INSPECTION

17.1. Introduction. This chapter establishes procedures and responsibilities for tire condition limitations on C-17A aircraft airlift missions. OPR for this chapter is 62 MXG/QA (DSN 382-5361/Commercial 253-982-6351)

17.2. Critical Tire Inspections.

17.2.1. A critical tire inspection (CTI) is a special inspection on C-17A tires with additional tire wear and/or cuts limits that are more stringent than the applicable technical order inspection requirements. These inspections are conducted on aircraft transiting locations or performing a specific mission where tire reliability is of the utmost importance to ensure mission accomplishment. CTIs are required for:

17.2.1.1. Prime Nuclear Airlift Force (PNAF) missions (REF: AFI11-299).

17.2.1.2. Phoenix Banner/Silver (Presidential support) missions.

17.2.1.3. Aircraft transiting the following areas or performing the following missions: Africa, South America, Pacific Coral Reef, Australia, Former Soviet Union and INF/START.

17.2.2. Limited critical tire inspections (LCTI) will be directed by the Maintenance Group Commander or designated representative . LCTIs are less stringent than the CTI requirement, but maintain the emphasis on prolonging tire reliability at airfields with limited or no tire change capability. The limits in paragraph 17.5. are designed to increase the reliability as mission requirements may dictate at locations or situations not addressed in the paragraphs above. The Maintenance Group Commander or designated representative should base the decision to perform LCTIs on airfield conditions and operational factors.

17.3. CTI and LCTI Procedures.

17.3.1. Production superintendents will ensure CTIs and LCTIs are performed on identified aircraft. Tires will be inspected and the results documented in accordance with this instruction and the references listed in Attachment 1. Any tire not meeting minimum inspection requirements will be documented in the AFTO Form 781A, Maintenance Discrepancy and Work Document.

17.3.2. CTIs will be accomplished on both primary and backup aircraft (if applicable) and tire replacements will be accomplished on both aircraft in accordance with production priorities. Any decision not to change affected tires on identified aircraft will be made by the MXG/CC or designated representative.

17.3.3. Aircraft movement. If an aircraft is towed after a CTI is accomplished, another CTI will be performed and documented in the aircraft's AFTO Form 781A.

17.4. Critical Tire Inspection Limits.

17.4.1. Phoenix Banner/Silver mission tire inspection limits:

17.4.1.1. Cuts: Tires with cuts that exceed one-half the embossed cut limit or cuts of more than ½ inch in length will be replaced. If a sidewall cut extends into the cord body,

the tire will be replaced as prescribed in TO 4T-1-3, *Inspection, Maintenance Instructions, Storage, and Disposition of Aircraft Tires and Inner Tubes*.

17.4.1.2. Wear: Tires with a measurement of less than 3/32-inch depth over the full length of any 12-inch span of a tire tread will be replaced.

17.4.1.3. For PNAF CTI requirements , refer to AFI11-299 for CTI limits.

17.4.2. Critical tire inspection limits for missions and locations identified in paragraph 17.2.1.3.

17.4.2.1. Cuts: Tire cuts with a depth of 1/32-inch or less than the embossed tire cut limit, will be replaced (Example: 8/32-inch cut on a tire with a 9/32-inch embossed cut limit needs to be replaced). If a cut extends into the cord body of the sidewall, the tire will be replaced as prescribed in TO 4T-1-3.

17.4.2.2. Wear: Tires with a measurement of less than 3/32-in depth over the full length of any 12-inch span of a tire tread will be replaced in accordance with the aircraft generation schedule.

17.5. Limited Critical Tire Inspection Limits.

17.5.1. Cuts: Use the same cut limit described in paragraph 17.4.2.1.

17.5.2. Wear: Tires with a measurement of less than 2/32-inch length depth over the full length of any 12-inch span of a tire tread will be replaced in accordance with the aircraft generation schedule.

17.6. Documentation. The AFTO Form 781A will have a red dash symbol and the following entry in the discrepancy block: "Critical Tire Inspection (CTI)/Limited Critical Tire Inspection (LCTI) due." When the inspection is completed, the discrepancy will be signed off with the following entry placed in the corrective action block for aircraft tires that pass the inspection: "CTI/LCTI complied with—all tires within CTI/LCTI limits." For tires that fail the CTI, the following entry will be entered in the corrective action block: "CTI/LCTI complied with. (specific number) tires failed." Tires changed as a result of a CTI/LCTI will be referenced to the original CTI discrepancy.

17.6.1. On occasion, units may want to inspect several aircraft to select the best candidate for the mission. In this circumstance, an "Info Note" is sufficient documentation (e.g., INFO NOTE: CTI performed IAW MAFBI21-43, Para 17.4.2.1. Tires 3, 5 and nose tires bad). However, once a tail selection has been made on an aircraft with a failed CTI/LCTI, follow the documentation process in paragraph 17.6.

17.7. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 18

AIRCRAFT STRUCTURAL INTEGRITY PROGRAM

18.1. Introduction. This chapter implements AFI 21-101 and establishes procedures for capture and transfer of C-17A aircraft Standard Flight Data Recorder (SFDR) stored data in accordance with (IAW) TO 1C-17A-2-31GS-00-1, *Indicating and Recording Systems,* and TO 1C-17A-2-31JG-30-1, *Indicating and Recording Systems Recorders*. OPR for this chapter is 62 MXG/QAP (DSN 382-5145/Commercial 253-982-5145)

18.2. General. Aircraft Structural Integrity Program (ASIP) improves aircraft safety, readiness and reduces life-cycle cost by monitoring the usage of each aircraft. An effective structural data collection program is essential to establish, assess, and support inspections, maintenance activities, repairs and modification or replacement actions.

18.3. Responsibilities.

18.3.1. The 62 MXG ASIP Project Officer is the OPR and will follow guidance established in AFI 21-101.

18.3.2. The 62d Aircraft Maintenance Squadron MOO/Supt will appoint a primary and alternate squadron ASIP Manager. These individuals should be Instrument/Flight Control System (IFCS) 7- level technicians.

18.3.3. The 62 AMXS ASIP Manager will:

18.3.3.1. Maintain an SFDR data accountability program.

18.3.3.2. Appoint a primary and alternate IFCS technician from each AMU and the AMXS support section as monitors to coordinate training, proficiency and program updates.

18.3.3.3. Develop and maintain a training plan and continuity book to ensure support section and AMU ASIP monitors are trained and proficient on laptop usage.

18.3.3.4. Ensure IFCS personnel are trained on SFDR data upload and archiving procedures. Training plans will also consist of procedures for data extraction and upload at deployed locations.

18.3.3.5. AMU production personnel will ensure SFDR downloads are accomplished for all aircraft scheduled for off-station missions. **NOTE**: Downloads may also be required after hard landings as specified in TO 1C-17A-6, *Inspection Requirements Manual*. Downloads may also be required for an aircraft undergoing a mishap investigation and/or impounded.

18.3.3.6. Ensure all SFDR files from laptops are uploaded into Aircraft Data Acquisition Distribution System (ADADS) immediately after aircraft download.

18.3.3.7. Ensure all files uploaded are archived in a squadron database for a period of no less than one year.

18.3.3.8. Ensure squadron IFCS technicians understand the importance of the SFDR and ASIP programs.

18.3.3.9. Assist deployed and en-route locations to verify SFDR data is uploaded and archived on deployed location servers.

18.3.3.10. Review the SFDR summary from Tinker AFB once a month and take action to correct negative collection trends.

18.3.3.11. Communicate regularly with ASIP representatives at Tinker AFB and Boeing to ensure open lines of communication exist for problem resolution.

18.3.3.12. Ensure ASIP managers re-upload data as requested by ASIP representatives at Tinker AFB, Boeing, and appointed ASIP program managers.

18.3.3.13. Ensure ADADS web site **https://asimisweb.tinker.af.mil/ADADS**/ is used to upload all SFDR files.

18.3.3.14. Ensure coordination with squadron section chiefs/element chiefs when periods of ASIP manager/alternate absence are actual or anticipated.

18.3.3.15. Ensure all IFCS personnel acquire ADADS account access.

18.3.4. DELETED

18.3.4.1. DELETED

18.3.4.2. DELETED

18.3.4.3. DELETED

18.3.4.4. DELETED

18.3.4.5. DELETED

18.3.5. AMU ASIP monitors will:

18.3.5.1. Maintain functional access to all databases and websites necessary to upload and archive SFDR data. Report any unresolved issues to the AMXS program manager.

18.3.5.2. Train all IFCS personnel within their AMU on the ASIP program.

18.3.5.3. Coordinate with AMXS ASIP managers and sister AMU monitors when periods of absence is actual or anticipated.

18.3.6. The 62/446 AMXS IFCS technicians will:

18.3.6.1. Perform SFDR downloads to laptops and uploads to ADADS. Ensure aircraft data is archived.

18.3.6.2. Notify support section personnel of equipment malfunctions or unsatisfactory conditions.

18.4. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 19

CANN PROGRAM

19.1. Introduction. This chapter identifies restrictions, specific procedures, individual responsibilities, and documentation requirements relating to aircraft cannibalization (CANN) actions. CANN actions should only be used to meet specific mission requirements. OPR for this chapter is 62 MOS/MXOO (DSN 382-3010/253-982-3010)

19.2. Procedures:

19.2.1. The 62d Aircraft Maintenance Squadron (AMXS) Production Superintendent (Pro Super) determines when to CANN a part or series of parts for partially mission capable and/or non-mission capable C-17A aircraft.

19.2.1.1. All CANN actions will be coordinated with the 62 AMXS/MXA or Line Chief (SABER 3) for potential impact to overall C-17A fleet readiness.

19.2.1.2. All CANN actions involving home station check (HSC) aircraft will be coordinated with the 62d Maintenance Squadron (MXS) Pro Super (MIKE 2).

19.2.1.3. Spare engine CANN requires coordination through Boeing Engine Management.

19.2.1.4. Aircraft in depot status for time compliance technical order or depot-level maintenance accomplished by Boeing Recovery and Modification Support (RAMS) will be coordinated through the RAMS manager. All other aircraft in depot status will be approved by the 62 MXG/CC/CD or the on-site Depot Maintenance Team Chief.

19.2.1.5. The 62 AMXS or 62 MXS Pro Super will coordinate through the Aircraft Parts Store (LRS/APS) to acquire a supply document number.

19.2.2. Once CANN action(s) has/have been coordinated among flight line agencies and the LRS/APS for availability of needed part(s), 62d Maintenance Operations Squadron, Maintenance Operations Flight Commander or Superintendant (62 MOS/MXOO) will be contacted through the Maintenance Operations Center for coordination & approval of the donor aircraft.

19.2.3. The supply document number is relayed to the Maintenance Operations Center (MOC) where it is tracked on the CANN tracking sheet and reported back to the LRS/APS with a CANN job control number (JCN). The CANN JCN is tied to the aircraft from which the part will be cannibalized.

19.2.4. Once the donor aircraft tail number has been approved, the MOC will issue the CANN JCN to SABER 3, MIKE 2, affected Pro Super, and the LRS/APS.

19.2.5. Ensure donor and recipient aircraft 781-series forms are documented correctly, and that all Maintenance Data Collection (MDC) time on CANN action(s) is taken as soon as possible after the part is removed, not to extend beyond the end of the shift. NOTE: In accordance with (IAW) AFI 21-101, CANN actions involving parts from aircraft battle damage repair (ABDR) aircraft and maintenance training devices (MTD) will not be accomplished without authorization from the item manager. If the part(s) is approved for

CANN, it will not be put into service until all necessary inspections [nondestructive inspection (NDI), pressure checks, operational checks, etc.] have been performed using specific guidance from the item manager to ensure proper serviceability.

19.3. Aircraft Maintenance Unit (AMU) Pro Super and/or expediters will:

19.3.1. Be the approving authority for CANN actions from aircraft assigned to the 62d Airlift Wing when certified by the MXG/CC.

19.3.2. Notify SABER 3 of the need for CANN action(s), providing all information necessary for proper documentation.

19.3.3. Coordinate with MIKE 2 for any CANN actions affecting HSC aircraft.

19.3.4. Obtain a supply document number through the LRS/APS.

19.3.5. Obtain a CANN JCN from the MOC.

19.3.6. Ensure appropriate part(s) is placed on order and/or properly backordered.

19.3.7. Ensure technicians performing CANN actions have all items required to remove part(s) from the aircraft (TOs, caps, plugs, bucket, rags, parts bag, warning tags, etc.).

19.3.8. Ensure repairable parts are turned in for repair or shipment.

19.3.9. Ensure donor and recipient aircraft 781-series forms are documented correctly and that all MDC time on CANN action(s) is taken as soon as possible after the part is removed, not to extend beyond the end of the shift.

19.3.10. SABER 3 is the approving authority for CANN actions from aircraft on station to support off-station repairs/Maintenance Recovery Team (MRT) operations in coordination with XOCL.

19.4. The MOC will:

19.4.1. Input CANN action(s) into G081 and work closely with the Pro Super to ensure accurate description and location of part(s) removed.

19.4.2. Notify 62 MOS/MXOO of need for CANN action(s) and to verify donor aircraft tail number.

19.4.3. Relay CANN JCN, donor aircraft tail number, and nomenclature of CANN item to the aircraft maintenance operations support (AMOS).

19.4.4. Maintain aircraft status in G081 in accordance with AFI 21-103 (i.e., CANN status and recovery status).

19.5. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 20

CRASH, DAMAGED, OR DISABLED AIRCRAFT REPAIR (CDDAR)

20.1. Introduction. This chapter establishes responsibilities, unit capabilities, and procedures necessary for Crashed, Damaged, or Disabled Aircraft Repair (CDDAR) in the McChord AFB area of responsibility to include host and transient aircraft. Agencies involved with recovery operations will ensure compliance with this instruction to ensure cooperative, coordinated response to CDDAR situations. OPR for this chapter is 62 MXS/MXMTA (DSN 382-5355/5164/Commercial 253-982-5355/5164)

20.2. Policy.

20.2.1. McChord Air Force Base will return to operational status as soon as practical after a mishap. The 62d Airlift Wing Commander or designated representative, as stated in AFMAN 32-4004, *Emergency Response Operations*, will determine the degree of emergency and make the decision regarding the speed with which the runway is cleared.

20.2.2. The CDDAR is established to recover damaged or disabled aircraft in minimum time and consistent with the following considerations:

20.2.2.1. The requirement to reopen the runway for operational use.

20.2.2.2. Preservation of evidence for accident investigation.

20.2.2.3. Safety of personnel involved with recovery operations.

20.2.2.4. In accordance with (IAW) AFI 91-204, when an aircraft is under investigation by the Interim Safety Investigation Board, recovery operations will not proceed until the board president releases the aircraft. Personnel who are not engaged in the investigation will remain outside of the recovery area. The crash recovery team may be called upon to perform tasks as required by the investigation team.

20.2.3. The CDDAR program instruction is procedural and will not take precedence over aircraft- specific technical data in recovery of crashed, damaged, or disabled aircraft. WARNING: Incidents involving aircraft made up of a composite structure may cause serious injury or death to those in contact with it. Transient aircraft home bases should be contacted to determine composite material risks and requirements for personal protective equipment (PPE). CAUTION: The aircraft and crash site will be disturbed only to the extent required to eliminate an imminently dangerous situation to the aircraft, support equipment, and personnel and will remain in an undisturbed state until the aircraft is released to maintenance by the incident commander (IC).

20.3. Responsibilities.

20.3.1. 62d Maintenance Squadron (MXS) Maintenance Flight will:

20.3.1.1. Maintain a crash recovery trailer with an inventory of specialized crash recovery tools, equipment, and current technical orders (TOs) to meet expected crash recovery operations.

20.3.1.2. Provide personnel required to perform CDDAR operations.

20.3.1.3. Provide primary and alternate Crash Recovery Team Chiefs (CRTC).

20.3.2. Repair and Reclamation Section will:

20.3.2.1. Manage the CDDAR program and ensure personnel are trained in recovery operations.

20.3.2.2. Conduct Crash Recovery Team (CRT) member training. Selected personnel will be trained for emergency and nonstandard towing procedures, standard and nonstandard aircraft lifting procedures, wear of PPE, and broken and fire-damaged composite material containment, handling, and disposal.

20.3.2.3. Ensure CRT members are respirator fit tested by 62 MDS Bioenvironmental Engineering (Bldg. 690, commercial (253) 982-3921/DSN 382-3921) and receive annual recertification.

20.3.2.4. Annually review the matrix of equipment, resources, and personnel capabilities for CDDAR (Attachment 40).

20.3.2.5. Maintain a continuity binder containing at a minimum, PPE guidelines, crash recovery checklists, event logs and trailer, equipment, and tool inventories.

20.3.2.6. Perform monthly crash recovery trailer serviceability inspections during storage or following any recovery effort or exercise; i.e., tire pressure checks.

20.3.2.7. Perform annual inventory of all equipment and expendable items during storage or following any recovery effort or exercise.

20.3.2.8. Perform containment and cleanup of fuel-related spills of 25 gallons or less IAW MAFB SPLAN 191-98, *Oil and Hazardous Substance Pollution Contingency Plan*, (for home station check (HSC) aircraft). If the fuel-related spill is greater than 25 gallons or a class III spill (more than 10' in any plane of direction or greater than 50 square feet), emergency notification of the fire department is required. Report fuel spills of 25 gallons or less to the fire department through normal channels.

20.3.2.9. Be prepared to provide equipment or personnel to assist 62d Aircraft Maintenance Squadron (AMXS) with emergency tows.

20.3.3. 62 MXS Aerospace Ground Equipment (AGE) Flight (Bldg. 1200, commercial (253) 982-2226/DSN 382-2226) will maintain and deliver serviceable MC-7 compressors or other support equipment required to perform CDDAR operations.

20.3.4. 62 AMXS will:

20.3.4.1. Provide maintenance representatives (crew chiefs and/or specialists) to provide technical advice relative to safety, operations, or environmental hazards, when requested by the CRTC.

20.3.4.2. Perform containment and cleanup of fuel-related spills of 25 gallons or less IAW MAFB SPLAN 191-98. If the fuel-related spill is greater than 25 gallons or a class III spill (more than 10' in any plane of direction or greater than 50 square feet), emergency notification of the fire department is required. Fuel spills of 25 gallons or less must be reported to the fire department through normal channels.

20.3.4.3. Take charge of all emergency tow situations in the event an aircraft without structural damage requires removal from the active runway, to include in-flight

emergency situations, hot brakes, and blown or flat tires. See flight line quick reaction checklist (QRC) #18 (in-flight emergency), #19 (aircraft crash), and #21 (hot brakes) located on the 62d Maintenance Group homepage, within the "Maintenance QRCs" link.

20.3.4.4. Request assistance from 62 MXS Repair and Reclamation Section for any emergency tow when additional equipment or personnel are required.

20.3.5. Quality Assurance will:

20.3.5.1. Ensure all aircraft AFTO Form 781 series documentation/historical records, servicing equipment, personal training records are impounded upon notification of an accident/mishap.

20.3.5.2. Inform the Maintenance Operations Center (MOC) or Core Automated Maintenance System for mobility (G081) Data Base Manager (DBM) to lock out (isolate) G081 on the affected aircraft.

20.3.5.3. Assist in calculating weight and balance of aircraft if required.

20.3.6. 62. Civil Engineering Squadron (CES) will:

20.3.6.1. Provide emergency crash/fire response, as well as hazardous materials and spill containment capability beyond the scope of the unit spill teams.

20.3.6.2. Provide heavy equipment, i.e., bulldozers, cranes, and dump trucks, as required by the CRTC.

20.3.7. 62d Security Forces Squadron (SFS) will provide security forces personnel to secure mishap scene and the wreckage assembly point, as directed by the IC. In addition, off-base incidents may require Security Forces to establish a National Defense Area (NDA).

20.3.8. 62d Logistics Readiness Squadron (LRS) will:

20.3.8.1. Provide a qualified driver and vehicle capable of moving the 53-foot crash recovery trailer within 30 minutes of notification. Provide 1-1/2 ton flatbed truck Reg #3291 to tow response trailer.

20.3.8.2. Provide 1-1/2 ton flatbed truck Registration # G7103291(modified with trailer brake controller to tow 14,000lb flat-bed response trailer).

20.3.8.3. Provide tractor trailers and forklifts, as necessary, to transport CDDAR support equipment to the mishap site, as well as transport wreckage to the wreckage assembly point. Depending on the mishap site conditions, an all-terrain forklift may also be required.

20.3.8.4. Provide maintenance support to heavy equipment participating in the recovery operation as directed by the IC.

20.3.8.5. Provide on-scene fuel servicing of recovery support equipment, to include AGE and heavy equipment.

20.3.8.6. Provide aircraft defuel capability, fuel recovery, and analysis to assist CRT.

20.3.9. 62 CONS will provide contracting support for specialized equipment as necessary to support recovery operations.

20.4. Procedures.

20.4.1. Upon declaration of a potential or actual major aircraft accident on the runway or in close proximity, the following sequence of events will occur:

20.4.2. All accident response agencies are notified according to 62 AW FSTR 10-2, *Full Spectrum Threat Response*.

20.4.2.1. Upon notification of an aircraft mishap requiring recovery of a damaged or disabled aircraft MOC will:

20.4.2.1.1. Notify Mike 2 of the requirement to recall (see attachment 41) and assemble the CRT at a designated point.

20.4.2.1.2. Ensure the first maintenance responders to the aircraft pull the cockpit voice recorder circuit breakers.

20.4.2.1.3. Upon request of the IC or maintenance, contact the transient aircraft home base and request TO guidance for aircraft recovery operations. Headquarters AMC transient aircraft must contact home base through HQ/AMC/XOCL at DSN 229-1963.

20.4.2.1.4. The IC will coordinate and request MOC to dispatch the CRT team via a designated safe route to the accident scene.

20.4.2.1.5. In the event that an aircraft recovery requires movement of cargo by normal or alternate means, contact 62 APS Squadron Ops Officer at DSN 382-2660 and 62 OG/OGV Standardization & Evaluation at DSN 382-2797.

20.4.2.1.6. For McChord assigned C-17 incidents, contact Flight Records at DSN 382-5641.

20.4.2.2. 62 MXS Production Superintendent will execute the CDDAR team recall procedures and pass along all known information (See Attachment 41).

20.4.2.3. The CRTC will:

20.4.2.3.1. Assemble CRT at a designated meeting area with immediate response trailer.

20.4.2.3.2. Notify MOC of assembly completion time.

20.4.2.3.3. Notify vehicle management flight dispatch office of possible requirement to move crash recovery trailer and equipment.

20.4.2.3.4. Brief the CRT on the situation, required actions, and known safety hazards.

20.4.2.3.5. Monitor the designated crash net, review safety procedures and aircraft TOs, and stand by until requested by IC to proceed to the accident scene.

20.4.2.3.6. Respond to the accident scene when requested, assess the situation, and plan for recovery.

20.4.2.3.6.1. Notify AMC A44X, A44XB, and Boeing engineers for deviations to technical data. NOTE: Recovery and removal of aircraft and aircraft parts will be IAW MAFB SPLAN 677-03, Mishap Response Plan for Flight Mishap Safety

Investigations, and AFI 91-204, to ensure preservation of evidence for safety and/or accident investigation boards.

20.5. Requirements.

20.5.1. A minimum initial response CRT will consist of the CRTC and six team members with all or some of the following certifications: flight line driver license (minimum two), forklift driver (minimum one), respirator qualified, and trained in carbon fiber containment.

20.5.2. The recovery team, at a minimum, will consist of the CRTC and a team of personnel based upon the following recovery actions, keep in mind all recovery actions are not identical.

20.5.2.1. Aircraft tow using main landing gear tow adapter, will consist of supervisor, UKE driver, brake operator, and four tow team-qualified team personnel.

20.5.2.2. Aircraft lift using aircraft tripod jacks, will consist of supervisor, manifold operator, plumb bob monitor, and one person per aircraft jack.

20.5.2.3. Aircraft lift using air lifting bags and tethering devices, will consist of supervisor, manifold operator, plumb bob monitor, and one person per airbag station.

20.6. Capabilities.

20.6.1. McChord possesses capabilities for the recovery of the C-17 aircraft from runway overrun and to recover aircraft during catastrophic mishaps. McChord CDDAR personnel are able to assist other CDDAR crews for any particular MDS, when requested by the on-scene commander.

20.6.1.1. Currently, no hydrazine response capability exists in MXS. In addition, 14 air bags are available (enough to lift one wing, de-bog a wing or nose gear).

20.7. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 21

ADVANCED COMPOSITE MATERIALS MISHAP RESPONSE

21.1. Introduction. This chapter establishes responsibilities, unit capabilities, and procedures necessary for Advanced Composite Materials (ACMs) mishaps in the McChord AFB area of responsibility to include all host and transient aircraft. All agencies involved with response, containment, and disposal operations will ensure compliance with this instruction to ensure a cooperative, coordinated, and safe response to an ACM mishap situation. OPR for this chapter is 62 MXG/QA (DSN382-5361/Commercial 253-982-5361)

21.2. Advanced Composite Materials Specific Concerns.

21.2.1. Carbon fibers are very light, become easily airborne, and are respirable. Plume dissipation under windy conditions increases dispersion area. Fire-exposed carbon fibers break into shorter lengths and smaller diameters, increasing the probability for respirability and ease of transport. Inhaled carbon fiber particulate cannot be expelled efficiently. Absorbed pyrolysis products on carbon fibers allow toxic debris to enter the body, causing decreases in respiratory efficiency and increases passageway irritation. The combined effect of inherently sharp and stiff individual carbon fibers promotes easy dermal penetration. Partially pyrolyzed fibers easily break into smaller segments. Rubbing of exposed skin areas increases the affected area. Typical exposure requires medical attention for dermatitis. C-17A aircraft contain over 8% carbon/graphite epoxy materials by weight (15,000 pounds). (See Attachment 42 for locations.)

21.2.2. Initial response personnel face the probability of an aircraft fire. As the composite material burns, gases, vapors, and solid particles are released into the smoke plume. Firefighting personnel will be exposed to toxic gases and fibers in the smoke or fibers present on parts when performing rescue operations. (See Attachment 43 for appropriate personal protective equipment (PPE) for burning/smoldering composite materials.)

21.2.3. Recovery/containment personnel will be exposed to fibers and respirable dusts as aircraft parts are moved around the site or modified by cutting, breaking, twisting, or hammering. (See Attachment 43 for protection from broken/splintered composites.)

21.2.4. If personnel, other than those at the accident site, have been exposed to adverse material hazards, the base medical staff will be consulted for evaluation and tracking. Advise the unthreatened populace in affected or fallout areas to:

21.2.4.1. Shelter in place.

21.2.4.2. Remain indoors.

21.2.4.3. Shut external doors and windows.

21.2.4.4. Turn off forced air intakes.

21.2.4.5. Await further notification.

21.2.5. When practical, remove contaminated outer garments of victims/response personnel at the scene to protect the medical staff. Advise the local medical staff of any ill effects they

believe are related to their exposure to the advanced composite materials. Symptoms of ill effects include, but are not limited to:

21.2.5.1. Respiratory tract irritation, reduced respiratory capacity, and difficulty breathing.

21.2.5.2. Eye irritation.

21.2.5.3. Skin irritation, sensitization, rashes, or infections.

21.2.6. Avoid excessive walking, working, or moving at the mishap site to minimize dust disturbance and creating airborne particulate fibers. All contaminated footwear will be cleaned to limit the spread of debris in the area and inside support vehicles.

21.2.7. Clean sites (i.e. tent or trailer) for donning/removal of PPE will be set up. When exiting the mishap site, personnel will use a high efficiency particulate air (HEPA) filtered vacuum, if available, to remove advanced composite contaminants from their outer clothing, work gloves, boots, headgear, and equipment. If unavailable, efforts shall be made to wipe or brush off as much contamination as possible.

21.2.8. No eating, drinking, or smoking is permitted within the established cordoned area. Personnel must be advised to wash hands, forearms, and face prior to eating, drinking, or smoking. Personnel will shower (in cool water) prior to going off duty to preclude injury from loose fibers.

21.2.9. Wrap and seal disposable protective clothing in protective plastic bags after use and discard as routine waste. Severely contaminated clothing will be labeled and discarded in accordance with paragraph. 21.5.2., otherwise, launder non-disposable clothing separately. The 62d Medical Squadron (MDS) Bioenvironmental Engineering (BE) will determine if other special handling or cleaning procedures are required.

21.3. Initial Response Requirements.

21.3.1. The first responder(s) will be the 62d Civil Engineer Squadron (CES) Fire Department. The Senior Fire Official will conduct an initial survey to inspect for:

21.3.1.1. Signs of fire-damaged composites (See Attachment 42 for C-17 aircraft locations).

21.3.1.2. Presence of loose and airborne fibers and particulates.

21.3.1.3. Prevailing weather conditions and directions.

21.3.1.4. Degree of site exposed to fire, explosion, and impact.

21.3.1.5. Local and proximal equipment and asset damage and danger.

21.3.1.6. Exposed personnel.

21.3.2. 62d Security Forces, along with any military person under Security Forces' direction required for what is essentially sentry duty, will enforce an initial 2,500-foot clearance zone centered on the burning and/or smoking mishap site. Restrict personnel and traffic from entering.

21.3.2.1. Evacuate areas in the vicinity of the mishap site affected by direct and dense fallout from the fire and explosion-generated smoke plume, along with easily mobile, critical equipment.

21.3.3. Extinguish fire and cool composite materials to below 300°F. Only firefighters equipped with self-contained breathing apparatus (SCBA) are authorized within the 2,500-foot clearance zone of a burning and/or smoking mishap site until the Senior Fire Official declares the area fire safe.

21.3.3.1. Avoid high-pressure water break-up and dispersal of composite material structures.

21.3.3.2. Do not use helicopters or low flying aircraft to control or suppress the fire. No flight, hovering, or taxiing within 500 ft above ground level (AGL) and 1,000 ft horizontally of the site.

21.3.4. The appointed Incident Commander (IC) if available, or without an IC, the Senior Fire Official, will establish control at the mishap site until fires are extinguished and composites cooled below 300°F. When the mishap scene is deemed fire safe by the Senior Fire Official and the 62 Maintenance Squadron (MXS) Crash Recovery Team (CRT) has contained damaged advanced composite material surfaces (in accordance with paragraphs 21.4.1. – 21.4.6.), the IC, if available and present at the time, will assume control. The IC or Senior Fire Official will ensure all responding personnel within the clearance zone wear appropriate personal protective equipment (See Attachment 43).

21.3.5. The IC or Senior Fire Official will consult with the 62 MDS BE and determine when to eliminate the 2,500-foot clearance zone and designate the cordoned area. As a guide, the cordoned area will be defined as more than 25 feet away from damaged composite parts, although it may vary depending upon environmental conditions (rain, dry, high winds, remote site, etc.).

21.3.6. 62d Security Forces will rope/cordon off the mishap area as established by the IC/BEE and establish a single entry and exit point. Only sufficiently protected individuals are authorized into the immediate mishap site/cordoned area (Attachment 43.

21.3.7. The IC or Senior Fire Official will inspect for and identify specific aircraft hazards while consulting with the crew chief, weapons system manager, reference documents, contractor, or aircraft specialists. Note composite and other hazardous materials to mishap response personnel.

21.3.8. Access to the crash site to conduct a more thorough survey will be coordinated with the IC. Ensure appropriate PPE is utilized (Attachment 43).

21.3.9. Alter or move aircraft and flight operations exposed to the immediate fallout area as soon as safely practical. Restrict all unprotected personnel from assembling downwind of the crash site.

21.4. Containment. All affected agencies must ensure compliance with the following:

21.4.1. 62 CES firefighters will secure burned and/or mobile composite material fragments and loose ash and particulate residue with firefighting foam or a fine water mist until a hold-down fixant material can be applied to immobilize the fibers. Initial actions will concentrate on debris containment.

21.4.2. The 62 MXS CRT will deploy to mishap site with a fixant or "hold-down" solution, consisting of either acrylic floor wax and water mixed in a 10:1 water-to-wax ratio, or Polyacrylic Acid (PAA-Carboset XL-11). The CRT will maintain an adequate supply of fixant solution(s) and spray equipment.

21.4.2.1. The fire must be completely extinguished and the composites cooled to below 300°F (149 °C) before fixant application. Firefighting equipment will be available during fixant application and aircraft break-up and recovery.

21.4.3. CRT members will apply (preferably spray) a heavy coating of the fixant solution to all burned composite materials and to areas containing scattered or settled composite debris. Completely coat the material until wet to ensure the particulate fiber and dust is immobilized. Immediately flush and clean fixant-application equipment with a diluted solvent to avoid clogging.

21.4.3.1. If fixant cannot be used, or further protection is needed, carefully wrap the coated parts and/or material with plastic sheet/film or place in a plastic bag that is a minimum of 0.006 inches (6 mils) thick. Seal and secure the damaged materials with tape.

21.4.4. CRT members will use soil-tackifiers (i.e., Polychem, J-Tack, Terra Tack) to hold materials on sand or soil. Solution will be sprayed onto the ground at a rate of 0.5 gal/sq. yd.

21.4.5. Apply masking tape over the non-fire/crash-damaged composite parts and material. These parts and materials may be required for investigative purposes. Place the damaged composite part and material in a plastic bag if possible and label as required. Pad all sharp projections from damaged composite parts to prevent accidental injuries.

21.4.6. Improved hard surfaces (i.e., concrete, asphalt) will be vacuumed (with electrically protected HEPA vacuums) or washed down with a detergent and water solution. The waste will be collected via plastic or burlap coated trenches or drainage ditches. Sweeping operations will be avoided, as they will dispense the particulate debris.

21.5. Clean-up and Disposal of Exposed Advanced Composites.

21.5.1. Conduct material disposal according to local, state, and federal guidelines. The 62 MXG hazardous materials and waste contractor, Aleut (main office in Bldg 745) will be contacted to assist with cleanup, sampling, and turn-in of the advanced composite parts and material that do not require accident investigation, evaluation, or repair or is not needed. Ensure the Safety Investigation Board (SIB) releases the parts before disposal is authorized.

21.5.2. If possible, a HEPA vacuum will be used to clean up the local area. Ensure composite materials to be disposed of are demilitarized, netted, and double wrapped in plastic for disposal purposes. All crash debris, vacuum bags, coveralls, gloves, and any other contaminated materials will be properly disposed of and labeled appropriately with the following: "Carbon Fiber Debris. Do not incinerate. Do not sell for scrap. Dispose of in approved landfill. Composite Waste." Any required hazard warnings will also be added. Aleut will coordinate composite waste disposal through 62 CES/CEV.

21.5.3. In the event of an open terrain mishap area, the surface will be sprayed with a final foam application and plowed under after all necessary and possible material collection actions have been completed.

21.5.3.1. Terrain will require advance coordination with the Operations Flight (62 CES/CEO) of 62 CES to see if affected airfield environment is suitable for the "plow under" of terrain due to presence of shallow-to-deep-buried utilities that service to airfield

21.5.4. If aircraft were subjected to the smoke and debris of the mishap, the following will be undertaken:

21.5.4.1. Vacuum the air intakes with an electrically protected vacuum cleaner.

21.5.4.2. For internally ingested smoke, visually and electronically (i.e., "sniffer") inspect all compartments for debris and vacuum thoroughly.

21.5.4.3. Prior to flying, perform electrical checks and engine run-up.

21.6. Training.

21.6.1. 62 MXS CRT members, Aleut, and 62 MDS BE personnel will:

21.6.1.1. View 14-minute training video titled Mishap Response for Advanced Composites. Video may be viewed at the 62d Maintenance Operations Squadron (MOS) Maintenance Training Flight (SW corner of Hangar 1).

21.6.1.2. Be medically cleared for respirator use and receive initial and annual training and fit testing to maintain respirator certification.

21.6.1.3. Direct all technical advanced composite materials questions to the 62 MXS Structural Maintenance Section, Bldg. 745, commercial (253) 982-5375/DSN 382-5375.

21.6.1.4. Direct all disposal concerns and questions to Aleut, commercial (253) 982-5856/DSN 382-5856.

21.7. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 22

DROPPED OBJECT PREVENTION PROGRAM

22.1. Introduction. This chapter establishes policies and procedures to be used to accomplish the Dropped Object Prevention Program (DOPP). This instruction applies to all aircraft maintenance personnel assigned or attached to the 62d/446th Maintenance Group (62/446 MXG). Commanders and supervisors at all levels within the 62/446 MXG are responsible for ensuring compliance with this instruction. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/3028/.Commercial 253-982-5361/3028)

22.2. General. All AMC units will participate in DOPP as directed in AFI 21101 and this instruction. The prevention of dropped objects requires a multifaceted approach. The following areas will be emphasized to aid in DOPP improvement; training, inspection, analysis, reporting and follow-up.

22.3. Responsibilities.

22.3.1. Proper removal, opening, installation, and closing of panels, fairings, externally mounted aircraft components, cowl doors, and hinged access panels are key to preventing dropped objects and the responsibilities of all aircraft maintenance personnel.

22.3.2. Upon discovery of a dropped object, the owning unit/squadron will immediately notify the Maintenance Operations Center and 62 MXG Quality Assurance inspection section, and within 12 hours, deliver a completed McChord AFB IMT 517, Dropped Object Report, to QA. The MOC will immediately notify 62 MXG/CC upon notification of a dropped object.

22.3.3. The QA DOPP monitor will ensure the McChord AFB IMT 517 is properly completed. If a material or design deficiency is a factor in a dropped object, a Deficiency Report Work Sheet (see 62 MXG share point for work sheet) will be completed and forwarded to the QA Product Improvement office. The QA DOPP monitor will record the dropped object incident with recommendations in the QA database for trending and tracking purposes and will notify higher headquarters agencies in accordance with AFI 21-101. Once the report is released from AMC, the incident will be loaded into G081, and the AMC DOPP website within 3 duty days. The website will be checked by the QA DOPP monitor monthly to ensure data accuracy.

22.4. Panel Inspection and Documentation Procedures.

22.4.1. Prior to removal and/or installation of each and every external panel, fairing, component and/or the opening of engine cowl doors, maintenance personnel will place a red "X" symbol and appropriate entry in the aircraft forms. The AFTO Form 781A, Aircraft Discrepancy and Work Document, will clearly identify the panel, component and/or engine cowl removed and/or opened. NOTE: For guidance on flare panel installation/removal during flare load operations see Chapter 7 paragraph 7.7.4.5.

22.4.2. All hinged access doors and panels will be fully opened and secured (if applicable), or fully closed and secured. Under no circumstances will hinged doors and panels be left unsecured.

22.4.3. Panels or components will not be installed in a partial or temporary manner. The only exceptions to this policy are outlined in TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Cells*, which authorizes temporary installation of access doors and fuel filler caps in the event of unforeseen high winds and/or thunder/lightning storms within a 5-mile radius. The on-duty Saber 3 or Mike 2 has the discretion of temporarily installing panels if he/she determines any of the above weather conditions warrant the installation. The original red "X" entry for the removal/opening of the panel/component will remain open in the aircraft forms during the temporary closure period. Upon termination of the weather induced maintenance restriction(s), fully open all temporarily installed panels/components for a clear visual identification of the actual aircraft status. The Production Superintendent must verify all panels temporarily installed have an open red "X" for removal in the AFTO Form 781A.

22.4.4. The DOPP inspection will be accomplished within a 6-hour window prior to the scheduled launch time. *EXCEPTION*: Aircraft generated during exercises or real-world contingencies may have DOPP inspections completed earlier than 6 hours prior to flight.

22.4.4.1. The DOPP inspection will be accomplished using AFI 21-101, AMC Supplement 1, Addendum C, *C-17 Dropped Object Prevention Program (DOPP) Checklist*. Any aircraft that is on alert status that has had a DOPP inspection accomplished will carry the inspection throughout the alert status. NOTE: The person who performed and signed off the -6 work card inspection is not authorized to perform and sign off the DOPP inspection on the same aircraft. EXCEPTION: Flying Crew Chiefs may accomplish their own DOPP inspection in conjunction with a -6 inspection at locations where no other qualified personnel are available.

22.5. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 23

GUIDELINES FOR PREVENTING, INVESTIGATING, AND REPORTING FOREIGN OBJECT DAMAGE (FOD)

23.1. Introduction. This chapter establishes a wing program for FOD prevention and applies to all personnel (military, civilian and contractors) working in, on, around, or traveling through areas near aircraft, munitions, engines, components or aerospace ground equipment. All commanders will ensure compliance with this instruction and establish guidance, as required, so every precaution is taken to prevent FOD. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/3028/Commercial 253-982-5361/3028)

23.2. Responsibilities.

23.2.1. The 62 AW FOD monitor will:

23.2.1.1. Schedule and prepare items for quarterly FOD Prevention Committee meetings.

23.2.1.2. Report FOD mishaps according to AFI 91-204; AFI 21-101, *Aircraft and Equipment Maintenance Management*; and this instruction.

23.2.1.3. Assist squadron FOD monitors in investigating each case of FOD to determine its cause and prevent future occurrences.

23.2.1.4. Perform random FOD inspections of all aircraft hangars, ramps and squadron maintenance areas.

23.2.1.5. Notify squadron commanders or supervision of any significant findings upon completion of random FOD inspections.

23.2.1.6. Promote a FOD prevention publicity program to include establishing a FOD recognition program.

23.2.1.7. Inspect and report damaged pavement or other hazards in or near aircraft parking ramps or taxiways to the airfield manager and monitor status to ensure timely repairs.

23.2.2. Applicable squadron commanders will:

23.2.2.1. Assign primary and alternate squadron FOD prevention monitors and ensure they comply with AFI 21-101, and this instruction. Forward an appointment letter to 62 MXG/QA. Any changes will be coordinated through 62 MXG/QA.

23.2.2.2. Ensure weekly FOD walks are conducted for their respective units and schedules relayed to 62 MXG/QA. 62 AMXS and 62 MXS are required to use the FOD Boss once a week in addition to the FOD walk.

23.2.3. Work center supervisors (e.g., Saber 3, Pro Supers, etc.) and squadron FOD monitors will coordinate FOD walks and:

23.2.3.1. Contact the Maintenance Operations Center or airfield manager to dispatch 62 CES for additional ramp sweeper service as required.

23.2.3.2. Ensure all grounding points are kept clean of debris at all times and highlight these areas during weekly FOD walks.

23.2.4. Specific squadron FOD walk areas are as follows:

23.2.4.1. 62 AMXS will FOD walk "Bravo" and "Juliet" aircraft parking ramps to include all vehicle parking areas on flight line side of aircraft maintenance unit facilities.

23.2.4.2. 62 MXS will FOD walk "Delta" aircraft parking ramp to include the AGE sub-pool adjacent to Delta ramp.

23.2.4.3. When aircraft are present, Detachment 1 (Washington National Guard) or AMXS personnel (when applicable) will FOD walk the 300 alert areas.

23.2.4.4. 62 APS will FOD walk the flight line side of building 1422.

23.2.4.5. When "Charlie" aircraft parking ramp is used for C-17A operations it will be the responsibility of the owning organization (e.g.., TA, 62 AMXS, 62 MXS, TDY unit, etc.) to perform a FOD walk on an "as needed" basis.

23.2.5. The 62 AW Airfield Manager will coordinate with 62 CES and develop a weekly ramp sweeper service schedule to cover all active runways, taxiways and parking ramps. In addition, the airfield manager will divert sweeper service to any immediate FOD problem areas.

23.3. McChord AFB FOD Prevention Committee.

23.3.1. The McChord AFB FOD Prevention Committee will be composed of representatives from organizations whose personnel perform duties on or in the area of the flight line. The units identified below represent the McChord AFB FOD Prevention Committee:

23.3.1.1. 62d Airlift Wing Vice Commander (62 AW/CV)

23.3.1.2. 62d Airlift Wing Safety (62 AW/SE)

23.3.1.3. 62d Maintenance Group (62 MXG)

23.3.1.4. 62d Aircraft Maintenance Squadron (62 AMXS)

23.3.1.5. 62d Maintenance Squadron (62 MXS)

23.3.1.6. 62d Maintenance Operations Squadron (62 MOS)

23.3.1.7. 62d Operations Group, Standardization/Evaluation (62 OG/OGV)

23.3.1.8. 62d Operations Support Squadron, Airfield Management (62 OSS/OSAA)

23.3.1.9. 62d Logistics Readiness Squadron (62 LRS)

23.3.1.10. 62d Aerial Port Squadron (62 APS)

23.3.1.11. 62d Civil Engineer Squadron (62 CES)

23.3.1.12. 62d Security Forces Squadron (62 SFS)

23.3.1.13. 446th Airlift Wing Safety (446 AW/SE)

23.3.1.14. 446th Operations Group/Standardization/Evaluation (446 OG/OGV)

23.3.1.15. 446th Maintenance Group (446 MXG)

23.3.1.16. 446th Maintenance Operations Flight (446 MOF)

23.3.1.17. 36th Aerial Port Squadron (36 APS)

23.3.1.18. 86th Aerial Port Squadron (86 APS)

23.3.1.19. Detachment 1, HQ Washington Air National Guard (Det 1, WAANG/MA)

23.3.1.20. Detachment 12, 373d Training Squadron (Det 12, 373 TRS)

23.3.1.21. Boeing/RAMS

23.3.2. Units identified above will provide a letter to the Wing FOD Prevention Office (62 MXG/QA) designating a primary and alternate FOD prevention officer or NCO. Any changes will be coordinated through the 62 MXG/QA. Personnel occupying these positions or a designated representative will attend all FOD Prevention Committee meetings.

23.3.3. The McChord AFB FOD Prevention Committee will meet quarterly unless the MAJCOM standard FOD rate is exceeded. In the event that MAJCOM standards are exceeded, the committee will meet monthly until the established standards are met. The committee chairperson may direct additional meetings as required.

23.3.4. 62 AW/CV will serve as chairperson of the FOD Prevention Committee. In his/her absence, the MXG commander will chair the committee. If both the wing vice commander and the MXG commander are absent, the OG commander will chair the committee. The Wing FOD Prevention Office will develop the meeting agenda.

23.3.5. The chairperson will monitor all phases of the program implemented within the wing to ensure that FOD incidents are thoroughly investigated and adequate corrective action is taken.

23.4. General FOD Prevention Practices.

23.4.1. Personnel will be constantly alert for any form of FOD during all phases of a job. Special attention must be given to small items of debris (e.g., safety wire, bolts, nuts, screws, etc.). Loose material and hardware will be placed in parts bags or FOD containers during the normal course of job performance. In addition, all personnel will:

23.4.1.1. Ensure all composite tool kits, or equivalents, are inspected for tool accountability at the completion of each task and all FOs are removed.

23.4.1.2. Ensure all work tasks, regardless of location, include a thorough cleanup as part of that task.

23.4.1.3. Ensure that FO bags (plastic or cloth) are available and are used to control hardware during maintenance.

23.4.2. All vehicles normally driven on the flight line will be equipped with secured and lidded FO containers. The containers will be emptied when full or at the end of each day, whichever comes first. For specific container requirements, consult AFI 21-101.

23.4.2.1. Vehicle operators are responsible for inspecting the cab interior, cargo bed area and tires for FOs objects prior to use. Operation of flight line vehicles on unpaved surfaces will be avoided whenever possible. When circumstances require off-road vehicle operation or transit through construction zones with rocks present, personnel will stop before entering the flight line to inspect and remove debris collected in the tire treads.

23.4.3. When engine and pitot covers are installed, they will be written up on a Red X.

23.4.4. Maintenance personnel will ensure a FOD inspection of the aircraft parking spot is performed preceding the block-in and prior to and following the block-out of all aircraft.

23.4.5. Any individual that escorts a person or group onto the flight line is responsible for the personal belongings and/or equipment of the escorted person(s).

23.4.6. Hats, berets, wigs or hairpieces will not be worn on the McChord AFB flight line. The MXG/CC can authorize exceptions to the no-hat policy for official functions that occur on the flight line. *EXCEPTIONS*: Wear of the seasonal watch cap is authorized. However, it will not be worn within 25 feet of any operating aircraft engine. Additionally, on-duty Security Forces personnel may wear their berets until they are within 25 feet of an operating aircraft engine.

23.5. Inlet and Exhaust Inspections.

23.5.1. The -6 Engine Inlet and Exhaust Inspection will be accomplished during pre-flight (PR), thru-flight, basic post-flight (BPO) or combined BPO/PR. Annotate "All engines due Inlet and Exhaust Inspection for XXX (applicable -6 inspection) IAW TO 1C-17A-6-WC-1 and 1C-17A-2-71JG-00-1".

23.5.2. The FO inspection will be accomplished prior to the first flight of the day after engine inlet covers have been removed or when aircraft turn time does not warrant a -6 inspection (6 hours or less). The FO inspection does not require inlet entry. It will be a visual inspection of the inlet and exhaust area to verify that there is no FO or readily detectible discrepancy present that could cause damage during engine start. Use a light source of sufficient illumination to inspect aircraft inlets and exhausts for FO.

23.5.3. All Engine Inlet and Exhaust Inspections and FO Inspections will be documented on a Red X and will be documented in G081 and the aircraft forms using Reference Designator 0413C for inlet/exhaust inspections and 04199 for FO inspections.

23.5.4. Do not attempt entry into the inlet or exhaust until engine rotation has stopped. If the engine is wind-milling due to high winds, cover the exhaust before entering the inlet. NOTE: The inspection will be accomplished even if the engine is scheduled for removal.

23.6. FOD Investigation and Reporting.

23.6.1. Investigators will use the McChord IMT 199, Foreign Object Damage (FOD) Incident Investigation, to report FOD incidents. 62 MXG/QA will assign a FOD control number consisting of unit designator, fiscal year and a three-digit number (e.g., 62AW2005001).

23.6.2. For any engine fan blade damage other than minor sand nicks or scratches that requires blending, ensure McChord AFB IMT 605, Blade Blending Worksheet, is completely filled out and sent to Engine Management for input into engine historical records.

23.7. When an engine suspected of FOD is received from off-base.

23.7.1. The responsible en-route base shall initiate the FOD investigation according to AFI 91-204 and forward initial investigation results to the 62 MXG/QA. 62 MXG/QA will forward copies to Boeing Engine Management.

23.7.1.1. Upon receipt of a C-17 engine, Boeing Engine Management will process the engine IAW the Flex Sustainment Contract.

23.7.1.2. The 62 MXG/QA may obtain a sanitized version of the final safety report from the 62 AW Safety Office. The Safety Office may provide and disseminate FOD program information to flying squadrons as required.

23.8. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 24

MAINTENANCE RECOVERY TEAM

24.1. Introduction. This chapter gives procedures for repair or recovery of off-station aircraft. It refers to AFI 21-101, and AMCI 21-108, *Logistics Support Operations*, and applies to all maintenance activities and personnel assigned or attached to the 62d Airlift Wing (62 AW). OPR for this chapter is 62 MOS/MXOOC (DSN 382-0525/Commercial 253-982-0525)

24.2. Responsibilities. All commanders within the 62 Maintenance Group as well as the 62d Mission Support Squadron, Personnel Readiness Function (62 MSS/DPMX) and 62d Logistics Readiness Squadron, Readiness Flight (62 LRS/LGRR) will ensure compliance with this instruction.

24.3. General. The Tactical Airlift Control Center, Logistics Control (TACC/XOCL) is responsible for the dispatch of MRTs. The purpose of an MRT is to repair or recover Air Mobility Command (AMC) aircraft grounded for maintenance at stations lacking support, needing technical assistance, or experiencing station saturation or work stoppage. MRTs consist of a selected technician or team of technicians with equipment and any necessary replacement parts.

24.3.1. MRT personnel will possess all required items necessary for travel and any special requirements passed down by XOCL (e.g. government travel card, shot records, passport, etc.).

24.4. Procedures. TACC/XOCL will refer all requests for off-base support to the MOC. The MOC at the downrange location will create and close the discrepancy for the not mission capable (NMC) aircraft in G081. In the absence of an Air Mobility Command (AMC) MOC at that location, the home station MOC will be responsible for G081 data entry. The home station MOC will immediately notify Air Terminal Operations Center (ATOC) of any MRT personnel or equipment tasked to support the expeditious recovery of the aircraft.

24.4.1. For aircraft on a TACC-funded mission, TACC/XOCL will task MOC and provide a Unit Line Number (ULN). The MOC will provide all pertinent information to the IDO to include the ULN, Geographic Location (GLOC), Unit Type Code (UTC), etc. for coordination with the 62 MSS/DPMX, who will prepare the Contingency Exercise Deployment (CED) orders. The IDO will notify the 62 APS Traffic Management Flight (TMF), Passenger Travel element of the priority requirement to move personnel and/or equipment.

24.4.2. For aircraft on a 62 AW-funded training mission, the MRT will be coordinated through the 62 MXG/CC. The tasked individuals will prepare their own temporary duty orders and travel through the Defense Travel System (DTS). Regardless of fund cite, if civil service employees or reservists are tasked, AMXS or MXS mobility sections will prepare Automated Business Services System (ABSS) orders for their respective travelers. It is imperative that flight reservations be based on earliest necessary departure, not team member convenience. If time does not allow the traveler to input an authorization into DTS, the unit requesting the travel shall prepare a Letter in Lieu of orders (see Attachment 44) signed by a Competent Authority and submit to TMF. Every effort should be made to process orders in DTS. The official travel order must be provided to TMF Passenger Travel element, fax 2-

5700, within 24 hours on the first official duty day after the member has departed home station for the official travel. All travel orders shall indicate whether or not the member is a Government Travel Card (GTC) card holder, in accordance with (IAW) DOD 7000.14-R, Volume 9, Chapter 3, *Department of Defense Financial Management Regulation.* It is imperative that the member and the unit GTC manager have the GTC activated prior to travel. Sufficient funds must be available on the GTC for member to complete travel.

24.4.3. The MOC will coordinate manning and equipment requirements between TACC/XOCL and 62 AMXS supervision (Saber 3). If 62 MXS support is required, the MOC will contact 62 MXS Mike 2 Production Superintendent. Information will include the required number of personnel by Air Force specialty code (AFSC), tools, parts, equipment, MRT mode of transportation, and estimated departure time. The MOC will provide the tasked organization a detailed description of the malfunction and condition of the aircraft.

24.4.4. The tasked organization will ensure the team members possess the proper qualifications for the task(s), provide the name of the team chief and the names of other team members within two hours of tasking to the MOC senior coordinator. TACC/XOCL may shorten these times when necessary. All team members will be considered Mission-Essential Ground Personnel (MEGP), with "MEGP Authorized" and/or "Mission Route Support" (authorizes cargo removal to allow space for MRT and equipment on the aircraft) annotated in the remarks section of the TDY orders, as applicable. The team chief will report to the MOC in bldg 1172 to receive a briefing on the extent and requirements of the MRT. The MOC senior coordinator will issue an MRT binder, brief the team chief on responsibilities in AMCI 21-108, and review the remarks section of the travel orders with the team chief.

24.4.5. If the grounded aircraft is at a location without any means of communication, TACC/XOCL will notify the MOC, who will issue an International Maritime Satellite (INMARSAT) communications kit and instruct the team chief on set operation. Kits are inspected monthly and maintained by the AMC Local Area Network (LAN) contractors in bldg 1197. If required after hours, MOC will contact the LAN contractors on the standby phone list.

24.4.6. The team chief will attempt to contact the aircraft commander or aircrew point of contact prior to departure and receive a brief on the malfunction. Do not delay departure, however, if time or circumstances prevent contact. The team chief is responsible for briefing the team and complying with the notification requirements IAW AMCI 21-108.

24.4.7. Immediately upon return to home station, the team chief will report to the MOC to brief the results of the TDY and return the MRT binder. The MOC senior coordinator will contact TACC/XOCL to notify them of the team's return. The team chief will brief the current location of all engines and related equipment shipped as part of the MRT and any known Transportation Control Numbers (TCN).

24.5. Shipment of Equipment.

24.5.1. The Pro Super will register for the Automated DD Form 1149 System hosted on the AFMC WEB-SERVER **https://lsotools.wpafb.af.mil/dd1149/**. The Pro Super will prepare a DD Form 1149, *Requisition and Invoice/Shipping Document*, for shipments entering the Defense Transportation System. A National Stock Number is required on the DD Form 1149

for each item. A separate DD Form 1149 is required for each hazardous item. If shipping an aircraft engine, complete a DD Form 1348-lA, Issue Release/Receipt Document, in quadruplet and AFTO Form 20, Caution and Inspection Record, if required. If any items require an AMC IMT 1033, Shipper's Declaration for Dangerous Goods, complete it in quadruplet. This form must be printed on a color printer. It must have the red border to be a valid form. The property and all documentation necessary for shipment will be taken to the 62 APS, Packing and Crating Element, 2-5775, for shipment. Pro Supers will provide all TCNs to the MOC. Fund cites will be obtained from 62 LRS/LGRRP if the grounded aircraft is on a TACC-funded mission. Otherwise, fund cites are obtained from the tasked organizations.

24.5.2. The team chief will inspect the items and verify they are exactly the required items to repair the aircraft and will ensure all required parts and equipment items are on the aircraft prior to departure. The team chief will contact the MOC for follow-up on any missing items.

24.5.3. The MOC senior coordinator will contact 62 APS/TMO at 2-5775 and provide the priority, mission number, tail number of grounded aircraft, and departure time to the TMF Packing and Crating Element for shipment during normal duty hours. After duty hours and weekends, the MOC senior coordinator will notify ATOC at 2-2613 who will in turn notify the Traffic Management Flight Standby representative. TMF standby personnel are under control of the 62 APS Port Manager for the movement of all cargo and personnel via military or commercial transportation. It is imperative all travel and movement requirements are immediately coordinated with the 62 APS Port Manager and TMF standby personnel as soon they become available.

24.6. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 25

WEIGHT AND BALANCE PROGRAM

25.1. Introduction. This chapter establishes responsibilities and procedures for managing the aircraft Weight and Balance (W&B) Program for aircraft assigned to the 62d Airlift Wing (AW). OPR for this chapter is 62 MXG/QA (DSN 382-2843/Commercial 253-982-2843)

25.2. 62d Maintenance Group Quality Assurance (62 MXG/QA). MXG/QA is responsible for managing the W&B Program for all aircraft assigned to the 62 AW. As program managers, MXG/QAI (Inspector Section) will:

25.2.1. Provide guidance and monitor all W&B preparations and review completed weighing preparation documentation in aircraft forms.

25.2.2. Maintain a spare certified DD Form 365-3, Weight and Balance Record, Chart C - Basic, for each assigned aircraft. The spare Chart C binder will be located in the 62d Aircraft Maintenance Squadron (62 AMXS) Composite Tool Kit (CTK) area.

25.2.3. Provide a supplemental handbook DD Form 365-4, Weight and Balance Clearance Form F – Transport/Tactical, for each aircraft. Handbooks will be located in one of two locations depending on the aircraft production model: either in the Forms Document Container at Fuselage Station (FS) 375-right side or in the Crew Galley compartment 1-7 at FS 280.

25.2.4. Provide a current listing of the weight and center of gravity (CG) for all assigned aircraft to 62d Aerial Port Squadron/Air Terminal Operations Center (62 APS/TRO), 62d Operations Group/Standardization Evaluation Division (62 OG/OGV), and 446th Operations Group/Standardization Evaluation Division (446 OG/DOV) any time the basic weight of an aircraft is updated. This will allow for proper mission planning and aircraft loading.

25.2.5. MXG/QA Technical Order Distribution Office (TODO) will notify the W&B manager of all time compliance technical orders (TCTOs) received. W&B managers will review TCTOs for any data which would affect aircraft W&B.

25.3. 62 AMXS personnel will:

25.3.1. Store the spare Chart C binder and lock box key ensuring 24-hour access to authorized personnel (W&B manager/technicians and production supervisors). The spare Chart C will be used only when the aircraft W&B supplement handbook Chart C is missing.

25.3.2. Inform MXG/QAI of W&B discrepancies discovered on any aircraft during the debriefing process.

25.3.3. Procure and install an adequate amount of blank DD Forms 365-4 in each aircraft's W&B supplemental handbook.

25.3.4. Notify the MXG/QAI W&B manager when aircraft equipment configuration is accomplished for programmed depot maintenance (PDM) input/return or transferring requirements. This will ensure an accurate aircraft equipment inventory update and W&B recertification by MXG/QAI.

25.4. 62 AMXS or 62 Maintenance Squadron (MXS) (whoever possesses the aircraft) will:

25.4.1. Provide a crew chief and specialists as needed to assist MXG/QAI with DD Form 365-1, Weight Checklist Record, Chart A, Basic, inventories.

25.4.2. Prepare aircraft for weight and balance. Accomplish preparation IAW AFTO Form 781A, *Maintenance Discrepancy and Work Document*, preprinted weight and balance preparation package and applicable technical orders.

25.4.3. Inform MXG/QAI W&B manager of any maintenance action that will add or decrease weight and affect the aircraft's center of gravity.

25.4.4. When an out of cycle weigh is required, provide a complete tow/jack team as required for the weighing process. These personnel will accomplish scale/load cell setup/teardown, positioning and jacking the aircraft for weighing, leveling the aircraft, and stowing all the equipment upon completion of the W&B. Depot personnel will provide guidance, monitor the process, take all scale readings and perform all weight and balance calculations. NOTE: Aircraft weighing is authorized in Hangars 1 through 4 and 6 IAW TO 1-1B-50, Basic Technical Order for USAF Aircraft Weight and Balance.

25.5. 62d Maintenance Operations Squadron (62 MOS):

25.5.1. Inform MXG/QAI, 62 APS, and AMXS of the required equipment configuration and the next scheduled flight of any assigned aircraft scheduled for PDM input/return and transfers in or out of McChord AFB. This notification is to take place 3 days prior to any anticipated aircraft movement.

25.5.2. Schedule aircraft for weighs as needed. When possible, schedule weighs immediately after the home station check (HSC)/refurbishment to prevent rework, e.g. wash, lubrication, configuration, etc.

25.5.3. Issue a preprinted Red "X" discrepancy in the AFTO Form 781A, "Weight and Balance Record, Chart C – Basic, requires update," in the following circumstances:

25.5.3.1. Weighing of an aircraft is required.

25.5.3.2. A TCTO affecting W&B is accomplished.

25.5.3.3. An aircraft transfers in from another base or depot.

25.6. All Airlift Squadrons. Loadmasters will annotate any damage to the supplemental handbook in the AFTO Form 781A to ensure repair by a weight and balance technician.

25.7. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 26

C-17 ENGINEERING DISPOSITION PROCESS

26.1. Introduction. This chapter establishes the procedures and responsibilities for managing the Engineering Disposition (ED) process. It is used to provide technical assistance to the C-17 maintenance community. It outlines procedures for all units on McChord Air Force Base requesting technical assistance for C-17 aircraft maintenance actions that are beyond the scope of applicable technical orders (TOs). OPR for this chapter is 62 MXG/QAP (DSN 382-5992/5145/Commercial 253-982-5992/5145)

26.2. General. A Request for Engineering Disposition Instruction (REDI) is used to request engineering assistance from Boeing to correct aircraft discrepancies that TOs do not address or when all troubleshooting efforts have been exhausted.

26.2.1. An Engineering Disposition requires the submission of a completed REDI to Boeing C-17 Field Engineering Support. The ED process now utilizes a web based system called VECTOR. When the online REDI form is completed in VECTOR, an email notification is automatically sent to 62 MXG Quality Assurance Product Improvement Office (QAP) and to Boeing Field Engineering. Once Boeing has completed the ED, the initiator will receive an automatic email notification. The initiator can then enter VECTOR and retrieve the ED. Prior to completing a REDI, 62d Maintenance Group (MXG) personnel will exhaust all possible resources (training, experience, technical data, tools, support equipment, etc.). If no fix/repair or repair is possible, then a REDI should be submitted to Boeing for assistance.

26.2.2. There are two priority levels for REDI submission:

26.2.2.1. Urgent: The aircraft is non-mission capable (NMC) and will not fly until the discrepancy has been corrected or the aircraft is partially mission capable (PMC) with mission restrictions until discrepancy has been corrected or the aircraft is in home station check (HSC) status.

26.2.2.2. Routine: The aircraft is not restricted, but a minor discrepancy exists that requires correction as priorities, time, and mission tasking allow, or REDI involves a non-mission capable supply asset, i.e., component, panel, or line replaceable unit (LRU).

26.3. Responsibilities.

26.3.1. Aircraft Maintenance Squadron (AMXS) and Maintenance Squadron (MXS) Maintenance Supervision will:

26.3.1.1. Appoint production superintendents and/or flight commanders/chiefs and designated section chiefs as REDI form approving officials. Provide approving official listing to the Product Improvement Office annually or as required due to personnel change. All approving officials require a VECTOR account. Contact MXG/QAP (982-2949 or 982-5992) to acquire an account.

26.3.1.2. Ensure approving officials brief maintenance personnel on the ED process.

26.3.1.3. Ensure personnel forward all completed REDI forms (form is in the 62 MXG/QAP Share point) to their designated approving official to input the information into VECTOR.

26.3.1.4. Review monthly for trends of similar or repeat REDI submissions in the same specialty area and ensure AFTO Form 22s are initiated when warranted.

26.3.1.5. Inform the Maintenance Operations Center (MOC) of aircraft status based on the REDI submission and subsequent ED response.

26.3.2. AMXS and MXS approving officials will:

26.3.2.1. Ensure technical order research is completed and organizational and intermediate-level repair remedies have been exhausted before submitting a REDI.

26.3.2.2. Ensure the REDI form is completed with as much detail as possible, determine priority of REDI submission, and review the REDI form prior to submission into VECTOR.

26.3.2.3. Generate an online REDI in VECTOR and fax the completed REDI form (printed from VECTOR) to MOC at 982-2382. If VECTOR is unavailable during normal duty hours, either fax (982-0183) or scan/e-mail (**62MXGProductImprovement@mcchord.af.mil**) a completed REDI form to MXG/QAP. If an urgent REDI is required after duty hours, the MOC will contact MXG/QAP by radio or cell phone (253-973-5444) to ensure the REDI is received and processed.

26.3.2.4. Boeing has 10 hours upon receipt of an urgent REDI to respond with final ED response and 3 duty days to respond to a routine REDI.

26.3.2.5. Place the completed ED in the applicable aircraft or equipment forms or forward to the originator for similar disposition.

26.3.2.6. Remove ED(s) from the applicable aircraft or equipment forms once a final repair is made or the ED is no longer applicable.

26.3.3. Air Force maintenance personnel/maintenance flights initiating a REDI form will:

26.3.3.1. Generate separate REDI requests for temporary and permanent repairs of the same discrepancy.

26.3.3.2. Complete the REDI form in clear and concise detail filling in all applicable blocks (see Attachment 49) and attach any photos, drawing(s), or other information that will assist with the resolution of the discrepancy.

26.3.3.3. Submit the completed REDI form to a REDI approving official.

26.3.3.4. Review the ED received (if applicable) from Boeing and determine if further guidance is needed to correct the problem.

26.3.3.5. Document corrective action IAW the ED in the AFTO From 781A or 244 and include the ED number in the corrective action block.

26.3.4. 62 MXG/QAP will:

26.3.4.1. Be the central point of contact for all REDIs submitted to Boeing C-17 Engineering and receive completed EDs from Boeing Engineering.

26.3.4.2. Assist maintenance personnel requesting an account for VECTOR via Boeing.

26.3.4.3. Assist maintenance personnel in researching technical orders prior to REDI form submission.

26.3.4.4. Maintain a 24-hour, 365-day point of contact where completed forms and EDs are centrally located. Cell phone: (253) 973-5444 during off shifts and weekends.

26.3.4.5. Review the priority of the REDI based on the aircraft maintenance situation and process REDIs immediately upon receipt. Routine REDIs received during weekends will be processed on the next duty day.

26.3.4.6. Assign the REDI form submission number from the REDI log and enter that number into VECTOR. In the REDI log, note the following: date/time received, priority, aircraft tail number, REDI number and discrepancy. If VECTOR is unavailable, process the REDI form received from maintenance as follows: assign an ED number, deliver the completed REDI form to Boeing C-17 Engineering and place a copy of the REDI form in the open REDI file. Upon receipt of the completed ED from Boeing Engineering, remove the submitted REDI from the master open file and distribute the completed ED to the requester. Boeing Engineering will maintain the original.

26.3.4.7. If the REDI is urgent, MXG/QAP will:

26.3.4.7.1. Review the REDI and contact the applicable engineer for that area. During weekends, contact the Boeing Engineer on duty. If the engineer is not available, contact the C-17 Base Engineering Manager for assistance.

26.3.4.7.2. After normal duty hours, contact the Boeing C-17 Engineering Manager as per Boeing Field Services roster. They will contact the appropriate engineer to respond to an urgent REDI.

26.4. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 27

AIRCRAFT SERVICES CONTRACT PROCEDURES

27.1. Introduction. This chapter assigns responsibilities and establishes procedures for the Aircraft Services contract. Contracted services include transient aircraft handling, aircraft wash preparation, aircraft wash, post wash lubrication, flight line deicing fluid, and wash water cleanup. OPR for this chapter is 62 MXG/QAE (382-6975/4152)

27.2. Responsibilities: Squadron commanders and staff agencies are responsible for ensuring compliance with this chapter.

27.3. Aircraft Wash Procedures:

27.3.1. Contract wash services are provided to ensure aircraft corrosion prevention at McChord AFB. Services are also provided to transient aircraft from bases without wash capability. Complete washes of McChord aircraft will not exceed designated wash cycle specified by T.O. 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*. The following requirements are considered essential and will be scheduled by the 62d Maintenance Operations Squadron Plans, Scheduling, and Documentation office (62 MOS/MXOOS) or the Maintenance Operations Center (MOC). Normal wash schedule start time will be 0800 but may be scheduled to fit mission requirements.

27.3.1.1. Home station check wash, C-17

27.3.1.2. Mid-cycle wash, C-17

27.3.1.3. Refurb wash, C-17

27.3.1.4. Complete wash, C-130, KC-135

27.3.1.5. Mission readiness wash, C-17

27.3.1.6. Major interior cleaning, C-17

27.3.1.7. Minor interior cleaning, C-17, C-130

27.3.1.8. Spot wash, (any aircraft)

27.3.1.9. Clear water rinse, C-17, C-130

27.3.2. Aircraft Maintenance Squadron (AMXS) personnel will inspect all assigned aircraft terminating at home station and request contract services as necessary to maintain a clean aircraft. The single criterion for ordering a wash/cleaning (except a complete wash) will be the need for that service. For flight line wash services, this need will be verified by Maintenance Supervision or a Production Superintendent prior to scheduling the service through 62 MOS/MXOOS or the MOC. Automatically ordering services because an aircraft has returned from, or is about to depart on a mission, is not authorized; a bona fide requirement must exist.

27.3.3. Authorized personnel will request contract services by contacting 62 MOS/MXOOS or the MOC. 62 MOS/MXOOS or the MOC will prepare an Air Force Technical Order (AFTO) Form 349, Maintenance Data Collection Record, in G081, Core Automated

Maintenance System (CAMS) for Mobility. MOC only schedules minor interior washes. The AFTO Form 349 will contain a job control number, the aircraft identification number, type of service required, and the scheduled time that the service is required. The AFTO Form 349 will then be transmitted to the printer designated for contractor use. If the G081 system is down, 62 MOS/MXOOS or the MOC may call the contractor at 982-2912 to request a wash service. However, as soon as the G081 system is back up, the requester must transmit an AFTO Form 349 to the contractor, even if the job has been completed. The contractor needs a hard copy of the AFTO Form 349 for payment purposes.

27.3.4. The contractor will forward the completed AFTO Form 349 to MXG/QAE for service validation.

27.3.5. If a wash service cannot be accomplished as scheduled, personnel responsible for, or first aware of the delay, (i.e. AMXS/MXS) will notify the MOC (extension 982-3336) of the delay or termination of the service requirement. The MOC will coordinate with 62 MOS/MXOOS during the following dayshift to ensure job orders (AFTO Form 349) are completed, rescheduled, or terminated. If an aircraft cannot be turned over to the contractor within 1 hour of the scheduled time, it must be rescheduled to start no sooner than 12 hours after the originally scheduled time. Rescheduled wash start times may differ from normal start times in order to match mission requirements.

27.3.6. As soon as possible after completion, the contractor will sign off the wash due write-up in G081. Clearing wash acceptance write-ups remains the owning squadron's responsibility.

27.3.7. The contractor is not allowed to create a wash job order (AFTO Form 349) in G081. This can only be accomplished by 62 MOS/MXOOS or the MOC.

27.3.8. After proper notification of a flight line wash requirement, the contractor must begin that service within 2 hours, unless several jobs are scheduled at the same time. In that case, the contractor shall accomplish the work in the priority order determined by the MOC. In accordance with their statement of work (SOW), as a minimum, the contractor shall maintain sufficient manning to accomplish an aircraft wash preparation, wash, lube, and restoration within specified time limits, while at the same time, recovering and launching 2 large aircraft. The contractor will make every possible effort to complete wash services prior to flight crew arrival. The contractor is responsible for employee notification and timely completion of the work.

27.3.9. For complete washes, the owning organization will deliver all aircraft to the contractor at the scheduled time. The contractor will accomplish all towing, servicing, and wash preparation in accordance with (IAW) their SOW.

27.3.10. Prior to aircraft delivery to the contractor, the owning organization will insert the applicable preprinted wash and lube package into the aircraft forms binder. Wash service will NOT begin until AFTO Form 781A, Maintenance Discrepancy and Work Document, form packages have been properly entered. Upon completion of the wash and lube service, the contractor shall sign off all applicable write-ups in this package, as well as clear them in G081.

27.3.11. The Aircraft Services SOW has designated maximum allowable times for contractor completion of stated tasks. The contractor is allowed a maximum of 7 hours for

tow and wash preparation, 10 hours for aircraft wash, 4 hours for post-wash lubrication, and 3 hours for post-wash restoration. The contractor has a maximum of 24 hours from scheduled start time to complete all services on each particular aircraft and release it back to the government. This does not mean that the contractor will only service one aircraft in this 24-hour period. For example, the contractor may have one work crew lubricating an aircraft while another work crew starts a wash in another facility. The contractor will make every effort to accommodate government requirements.

27.3.12. If the contractor encounters a lube fitting that will not take grease, they will annotate this in the aircraft forms and notify the MOC. The MOC will contact the appropriate agency for troubleshooting or replacement of the fitting or associated components.

27.3.13. Transient aircraft that come to McChord for wash services will not be prepped or lubed by the contractor. These tasks are the responsibility of the aircraft crew chiefs. The MOC will advise transient crew chiefs and other TDY personnel to accompany and prepare their aircraft for wash and to perform an acceptance inspection of the aircraft prior to departing the wash facility. The contractor will be available to correct any deficiencies.

27.3.14. The contractor is responsible for collecting all deicing fluid and wash water generated on the flight line. All nearby sewer drains will be blocked with fluid barriers prior to start of the deicing or wash operation. The MOC will notify the contractor by phone (982-2912) or radio that a deicing operation is planned. The contractor will have 1 hour to respond to the parking spot with a vacuum vehicle and drain barriers. Any washes, excluding minor interiors, to be accomplished outside a designated wash facility must be coordinated through 62 CES/CEV 982-3913 for approval.

27.4. Transient Aircraft Procedures:

27.4.1. The contractor will coordinate transient aircraft arrival and departure times, parking locations, fuel delivery, and maintenance requirements with the MOC. McChord aircraft on loan to other bases are not usually considered transient. AMXS supervision will be the deciding agency to whether Transient Alert or an AMU will cover these type aircraft and will coordinate decisions with Transient Alert. Additionally, the contractor will keep the MOC informed of aircraft status and any parts that are on order.

27.4.2. When services and supplies are provided to foreign, commercial, and other non-DoD aircraft, the contractor will annotate this data on the AFTO Form 349 (man-hours), and AF IMT 726 Transient Aircraft Service Record (Consumables) and submit to the McChord Accounting and Finance Office (AFO) IAW TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures,* and AFI 21-101. The AFO will use this data to gain reimbursement from these non-DoD agencies.

27.4.3. Engine oil must be checked and samples taken within the time constraints established by specific aircraft technical data. When processing oil samples for the Joint Oil Analysis Program (JOAP), DD Form 2026, Oil Analysis Request, must be completed IAW TO 33-1-37-1, *Joint Oil Analysis Program Laboratory Manual*. The contractor will extract engine oil samples from transient aircraft and deliver to the JOAP lab located at Fort Lewis, Building 9500. JOAP samples during off-shift and weekends are limited to “red cap” samples only.

27.4.4. The contractor shall clean up small fuel and hydraulic fluid spills that occur on transient aircraft. Personnel shall be properly trained and will use all required personal protective equipment. The on-site commander or fire chief will determine which spills are large enough to be cleaned up by the base Hazardous Materials Response Team.

27.4.5. The contractor will check, make required entries, and clear AFTO Form 781 series write-ups as required. The contractor is responsible for clearing Red X symbols originated by Aircraft Services personnel. The contractor is authorized IAW TO 00-20-1 and shall keep on file a list of all employees certified to sign Exceptional Releases (ERs) on transient aircraft.

27.4.6. The contractor shall respond to and support emergency or wartime contingency situations. The contractor may be directed to respond to emergencies on the runway or taxiway, tow disabled aircraft, or use "Follow Me" vehicles to lead emergency response teams to the site of the emergency. During an aircraft hijack incident or exercise, the contractor may be required to block access to runways in accordance with base checklists. During Disaster Preparedness responses (actual or exercise), the contractor may be required to tow transient aircraft from affected areas or assist in relocating maintenance equipment. The contractor may also be required to evacuate the affected area until the all clear is given.

27.5. Operation, Maintenance, Repair and Supply of MXG Pollution Prevention (P2) Equipment:

27.5.1. This section establishes procedures and work center responsibility for the C-17A aircraft wash rack water filtration systems in Hangars 4, 5, 6 (Corrosion Control Facility (CCF), Bldg 1160) and the air filtration system within the CCF and Bldg 745.

27.5.2. Wash Rack Filtration Systems:

27.5.2.1. Only the 62 MXG/QAE and Aleut Global Solutions, Inc (AGS) personnel will be trained to inspect and operate the filtration systems by the contractor, Northwest Environmental Equipment, Inc. Any fault of the systems will be reported to the 62 MXGQAE. In turn, the QAE office will notify the contractor for prompt response IAW the statement of work.

27.5.2.2. System Performance and Repair: Only the contractor will perform and supply the parts and consumable materials needed to operate the system. Aleut contractors will perform daily inspections, replace the filtration paper and empty the flocculation catch bins when full. 62 CES/CEV will conduct periodic water sampling and analysis to ensure compliance with the Department of Ecology and EPA standards.

27.5.3. Air Filtration Systems in Bldg's 745 and 1160 (CCF)/Hangar 6:

27.5.3.1. Only qualified 62 MXS personnel will operate or perform daily operation checks on the filtration systems. Training will be documented on an AF FORM 797 located in the appropriate work center. 62 MXS personnel will ensure all consumables are provided and monitor for signs of system malfunctions.

27.5.3.2. 62 CES will be responsible to repair and test as applicable. If determined that repairs and/or testing should be contracted, CE will communicate with 62 MXS the information and work on a resolution that would lessen mission impact.

27.5.3.3. Non-stationary or mobile equipment filtration units are the responsibility of the user. The owning unit will maintain these units (if applicable) and will purchase repair parts and consumables when not provided by 62 CES.

27.6. Contract Quality:

27.6.1. The MXG Quality Assurance Evaluator (QAE) Office is responsible for contract monitoring, management, and enforcement. All questions or conflicts regarding acceptance criteria and contractor performance will be directed to the QAE Office at 982-6975.

27.6.2. The QAE personnel will receive complaints from customers verbally, in writing, or via e-mail. The QAE personnel will investigate the complaint and determine whether it is valid. All customer complaints will be documented by printed e-mail transmission, memo for record, or a locally devised form. If the complaint is found to be valid, the QAE personnel will then verbally notify the contractor. When possible, the contractor shall re-accomplish the service at no cost to the government.

27.6.3. If a QAE employee is not readily available to investigate a complaint, the customer may contact the contractor directly by phone or radio. The Aircraft Services shift supervisor or appointed quality control representative will investigate and document the complaint and all corrective actions. The contractor will notify the QAE of the complaint at the earliest opportunity. Discussions of complaint validity, contract requirements, or additional payments will be held at this time. The contractor will make every attempt to resolve the complaint on the spot.

27.7. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 28

CONTROL AND ASSIGNMENT OF JOB CONTROL NUMBERS (JCN) AND LAND MOBILE RADIO (LMR) CALL SIGNS

28.1. Introduction. This chapter establishes the allocations/assignments and use of JCNs used to authorize and manage the progress and completion of work on aircraft, aerospace ground equipment (AGE), and associated equipment in accordance with (IAW) Technical Order (TO) 00-20-2, *Maintenance Data Documentation,* Chapter 4. It also outlines Land Mobile Radio call signs used within the 62/446 MXG. OPR for this chapter is 62 MOS/MXOO (382-9941)

28.2. Responsibilities. Commanders, staff agencies, and work center supervisors will ensure compliance with the provisions of this instruction.

28.3. Allocations/Assignments of JCNs. The JCNs are listed in numerical sequence in Attachment 45.

28.4. MXG LMR call signs are listed in Attachment 52.

28.5. Other Related References. AFIs, AFOSH STDs, AWIs, and TOs are listed in Attachment 1.

Chapter 29

AIRCRAFT MAINTENANCE DEBRIEFING

29.1. Introduction. This chapter establishes procedures and responsibilities for aircraft debriefing. OPR for this chapter is 62 AMXS/MXAS (DSN 382-7163/Commercial 253-982-7163)

29.2. Procedures. Debriefing will be accomplished on aircraft or in the mobile debrief truck.

29.2.1. For general debrief requirements, consult AFI 21-101.

29.2.2. The transient alert (TA) is responsible for all transient aircraft. TA will ensure all maintenance discrepancies are marked mission essential (ME) or mission contributing (MC).

29.2.3. With the exception of transient aircraft, debrief all missions or end of day local returns using the mobile debrief process.

29.2.4. Transient aircrew with McChord aircraft landing will be required to debrief their aircraft.

29.2.5. Aircraft will be debriefed on a first-come, first served, basis.

29.2.6. Should multiple aircraft require simultaneous debriefing, debrief personnel will only accomplish portions requiring aircrew input and then proceed to the next aircraft. Remaining documentation portions will be completed after all aircrew are released.

29.3. Prior to Landing.

29.3.1. Thirty minutes prior to termination of flight, or as soon as ultra high frequency (UHF) or very high frequency (VHF) contact can be established, the flight crew will notify the 62d Airlift Wing Command Post (62 AW/CP) of landing code status and identifying system malfunctions.

29.3.2. If any changes in landing status code or landing time occur after initial contact and prior to block-in, the flight crew will reestablish contact and update 62 AW/CP. The 62 AW/CP will provide the Maintenance Operations Center (MOC) with updated landing code status for relay to the Debrief Section and Production Superintendent (Pro Super).

29.4. After Landing.

29.4.1. The aircraft commander will ensure all discrepancies are entered in the AFTO form 781A. Aircrew will validate the Technical Order (TO) 1C-17A-2-00FR-00-1, *Fault Reporting Manual*, fault codes for debrief personnel or the assigned Aircraft Regeneration Team. Discrepancies will be documented by the aircrew in accordance with AFI 21-101, and AFI 11-2C-17V3, *C-17 Operations Procedures.*

29.4.2. The aircraft commander will debrief the condition of the aircraft and its equipment. Required or requested specialist(s) will be present during debrief. All discrepancies from the flight will be documented in the Air Mobility Command (AMC) Information Management Tool (IMT) 278, Debriefing and Recovery Preplan.

29.4.2.1. Copies of AMC IMT 278 will be provided daily to each aircraft maintenance unit (AMU) Superintendent and AMXS Maintenance Supervision for review of all pilot-reported discrepancies (PRDs).

29.5. Responsibilities of Debrief Personnel.

29.5.1. Debrief all aircraft per AFI 21-101 and locally developed debrief checklist in Attachment 46.

29.6. Responsibilities of the Regeneration Team. If an aircraft lands code 1 or code 2 and is scheduled for another local that flying day, the regeneration team will:

29.6.1. Call the MOC and have them load any jobs requiring job control numbers to include special inspections {Dropped Object Prevention Program (DOPP) and inlet and exhaust (I&E) inspections}, and all aircrew discrepancies.

29.6.2. In the event the aircraft will not be able to make its next schedule sortie, they will notify Debrief in order to accomplish end of flying day tasks

29.7. Post-Debrief. Debrief Personnel will:

29.7.1. Transfer the flight times from Air Force Technical Order (AFTO) Form 781, ARMS Aircrew/Mission Flight Data Document, into G081.

29.7.2. Audit flying hours to ensure accuracy of data.

29.7.3. Conduct daily mission reviews with the 62d Operations Group representatives.

29.7.4. Provide the audit report with the completed AFTO Form 781.

29.8. Aircrew Responsibilities. Follow responsibilities IAW AFI 11-2C-17V3 and provide information required in the local debrief checklist (Attachment 46).

29.8.1. Aircrew will perform all maintenance debriefs on the aircraft or in the mobile debrief truck. Once Maintenance Debrief is complete, aircrew can depart for One-Stop.

29.8.2. The Aircraft Commander along with any pertinent aircrew members will be required at the time of debrief.

29.9. Maintenance Operations Center (MOC) Responsibilities. Upon receiving an outcall from the inbound aircraft, the MOC will ensure Maintenance Debrief is notified of inbound aircraft and its status. Notification can occur by Land Mobile Radio, cell-phone, and/or land line.

29.10. Other Related References. AFIs, AFOSH STDs, AWIs and TOs are listed in Attachment 1.

Chapter 30

HEARING AND FALL PROTECTION

30.1. Introduction. This chapter establishes local hearing protection requirements. These requirements were derived from a hearing survey conducted by 62 Medical Squadron Bioenvironmental Engineering (MDS/SGPB). OPR for this chapter is 62 MXG/QA (DSN 382-5361/3343/Commercial 253-982-5361/3343)

30.2. Hearing Protection Procedures:

30.2.1. Personnel must wear single hearing protection when within 25 feet (ft) of a running ground power unit.

30.2.2. Personnel must wear single hearing protection when within 235ft and double hearing protection when within 55 ft of an operating Auxiliary Power Unit (APU). NOTE: When inside the aircraft while the APU is operating, only single hearing protection is required.

30.2.3. Personnel must wear single hearing protection within 415 ft directly in front and 315 ft to the side of C-17A aircraft with engines operating at idle with or without an operating auxiliary power unit or ground power unit. Double hearing protection is required when within 80 ft of this condition.

30.2.4. Personnel around a C-17 aircraft with four engines running--two at idle and two at max ground power--must wear single hearing protection everywhere on the ramp. Double hearing protection requirement starts within 505ft of the aircraft.

30.2.5. Personnel must wear double hearing protection within 60ft of an operating MA-3D air conditioner or MC-7 air compressor. Single hearing protection is required within 25 ft of all other operating powered aerospace ground equipment.

30.3. Fall Protection Procedures:

30.3.1. Fall protection will be used every time 62 MXG personnel access the upper fuselage, wing and tail areas. Refer to technical order (TO) 1C-17A-2-00JG-00-1, *Aircraft General*, System Number/Subsystem Number/ Subject Number (S/SS/SN) (00-00-01-1) for harness wear instructions and attach point locations.

30.3.2. This instruction adds to the current requirement for fall protection in the aircraft-specific TO and Air Force Occupational Safety and Health (AFOSH) Standards.

30.4. Other Related References. AFIs, AFOSH STDs, AWIs,/ TOs are listed in Attachment 1.

Chapter 31

C-17 AIRCRAFT REFURBISHMENT PROGRAM

31.1. Introduction. The 62d Maintenance Squadron has overall responsibility for the C-17 refurbishment program. OPR for this chapter is 62 MXS/MXM (DSN 382-7071/7072/Commercial 253-982-7071/7072)

31.2. Procedures.

31.2.1. Plans Scheduling and Documentation (PS&D) will:

31.2.1.1. Track, schedule, and update technical order (TO) 1C-17A-6, *Inspection Requirements,* required refurbishment inspections for all assigned aircraft.

31.2.1.2. Schedule a standardized pre-dock, wash and lube, and refurbishment with the number 6 home station check, ensuring the wash includes an interior belly wash and C-17 Refurbishment Wash Preparations and C-17 Complete Refurbishment Wash in accordance with TO 1C-17A-2-12JG-10-1, *Servicing, Cleaning/Decontamination,* and the aircraft services statement of work. Add 1 additional day to the standard HSC providing a 4-day post-wash/lube window to complete the HSC and refurbishment.

31.2.1.3. Align and schedule any unsynchronized refurbishments with the next scheduled number 6 HSC.

31.2.2. Fabrication Flight (MXS/MXMF) will:

31.2.2.1. Attend HSC pre-docks and daily meetings to identify and plan any refurbishment specific work requirements.

31.2.3. Maintenance Flight (MXS/MXMT) will:

31.2.3.1. Attend the HSC Refurbishment pre-dock and daily production meetings to ensure all work centers involved are aware of the refurbishment flow and requirements.

31.2.3.2. Order a refurbishment kit immediately following the HSC pre-dock meeting.

31.2.4. The HSC Dock Chief will:

31.2.4.1. Ensure continuous flow of refurbishment and inspection work IAW TO 1C-17A-6 work cards.

31.2.4.2. Ensure all removed aircraft components including armor, galley, lavatory module and cargo winch are routed to the appropriate shops for inspection(s) and repair.

31.2.4.3. Track status and progress of the refurbishment inspection and all related off-equipment work.

31.2.4.4. Communicate requirements for external assistance as required through the MXS Production Superintendent.

31.2.4.5. Ensure all refurbishment and HSC inspection items are completed.

31.2.5. Aircraft Maintenance Squadron (AMXS) will:

31.2.5.1. Ensure aircraft scheduled for refurbishment are prepped and turned over to the wash contractor IAW the aircraft services statement of work and refurbishment work card requirements.

31.2.5.2. Complete any AMXS-specific refurbishment work card requirements.

31.2.6. Operations Group will provide the manufacture and/or repair of fabric items on the pilot's, co-pilot's, left and right auxiliary crew member and loadmaster seats to include the seat cushion, seat back liner, arm & head rests, crew rest seat cushions & arm rests, flight station curtains and crew bunk mattresses.

31.3. Other Related References. AFIs, AFOSH STDs, AWIs and TOs are listed in Attachment 1.

Chapter 32

RED BALL PROCEDURES

32.1. Introduction. This chapter establishes procedures and responsibilities for Red Ball maintenance and further establishes guidelines for local maintenance procedures, parts delivery, documentation methods, and follow-on actions. This maintenance concept is intended to prevent late takeoffs and aborts. This policy applies to all personnel assigned or attached to the 62d/446th Maintenance Groups (MXG). OPR for this chapter is 62 MXG/QAI (DSN 382-5361)

32.2. Responsibilities. Squadron commanders, section chiefs, and supervisors at all levels are responsible for ensuring compliance with this chapter.

32.3. Procedures.

32.3.1. Qualified maintenance personnel from each AMU will be available and readily accessible with proper technical data and tools during launch and recovery operations to troubleshoot, isolate, and repair system malfunctions.

32.3.2. Maintenance personnel will display a sense of urgency while practicing sound safety procedures using MRM and ORM principles.

32.3.3. The term “Red Ball” will be used for maintenance required actions called in to the MOC by the respective AMU to identify time-sensitive maintenance prior to launch.

32.3.4. MOC will be notified for all Red Ball maintenance discrepancies to be loaded into G081 and will close out G081 entries (9010 screen) called in complete by the respective AMU prior to flight. If G081 is down, MOC will manually record discrepancy(s) using G081 Form 115 with assigned job control number(s). When G081 is up, information will be loaded and the job closed out as soon as practical.

32.3.5. All supply parts will be ordered priority 2 and delivered to the aircraft within 30 minutes IAW AFI 21-101, paragraph 11.33.2. The flight line expediter will ensure that all supply parts are turned in and due-in-from-maintenance assets cleared as soon as possible.

32.3.6. The Production Supervisor will review the AFTO 781A Maintenance Discrepancy and Work Document to determine the adequacy of repairs and if follow-on maintenance is required and to ensure accurate documentation after completion of Red Ball maintenance.

32.4. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 33

REPEAT, RECUR AND CANNOT DUPLICATE MAINTENANCE PROCEDURES

33.1. Introduction. This chapter establishes procedures and responsibilities for repeat, recur, and cannot duplicate maintenance procedures. This policy applies to all personnel assigned or attached to the 62d/446th Maintenance Groups (MXG). OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

33.2. Responsibilities. Squadron commanders, section chiefs, and supervisors at all levels are responsible for ensuring compliance with this chapter.

33.3. General. Maintenance discrepancy history is a vital part of determining the next maintenance action to repair an existing problem; analysis of such information trends should assist in resolving any discrepancy. G081 is a valuable source of this information, and users will maintain data integrity. It is the responsibility of those involved with the existing problem to ensure a historical review is accomplished of previous corrective actions on this and other aircraft.

33.4. Definitions.

33.4.1. A repeat discrepancy is when the same malfunction occurs in a system/subsystem on the next sortie/sortie attempt after the discrepancy originally occurred and was cleared by maintenance (including CNDs/no-defect-noted, etc).

33.4.2. A recurring discrepancy is when the same system/subsystem malfunction occurs in the 2nd thru 4th flights/attempted flights after the original flight in which the malfunction occurred and was cleared by maintenance (including CNDs/no-defect-noted, etc).

33.4.3. Cannot duplicate (CND) discrepancies are those discrepancies reported by flight crews or maintenance personnel that cannot be duplicated.

33.5. Guidance.

33.5.1. Repeat/Recur and CND Discrepancies. Follow the guidance in AFI 21-101_AMCSUP, *Aircraft and Equipment Maintenance Management;* and TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy, and Procedures* and this instruction for how to and who can clear repeat and recur discrepancies as well as the required actions of the aircraft debrief section.

33.5.1.1. Individuals authorized to clear a repeat/recur and CND discrepancies must be documented on the Special Certification Roster (SCR).

33.5.1.2. Maintenance work centers will ensure maintenance actions on CND discrepancies are supervised by a 7-level production inspector.

33.6. Other Related References. AFIs, AFOSH STD, AWIs, and TOs are listed in Attachment 1.

Chapter 34

AIRCRAFT DOCUMENT REVIEW PROCESS

34.1. Introduction. This chapter, in accordance with AFI 21-101, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*, establishes procedures for the accomplishment of the aircraft document review process. The mid-term aircraft document review will be accomplished electronically on the MXG shared drive, and home station check document reviews will be accomplished during post dock. It requires the Maintenance Operation Squadron, Aircraft Maintenance Squadron and Logistics Readiness Squadron section commanders to establish policy, procedures, and responsibility for the process. This instruction applies to all maintenance activities and personnel assigned or attached to the 62d and 446th Maintenance Group. OPR for this chapter is 62 MOS/MXOOS (DSN 382-6797 / Commercial 253-982-6797))

34.2. Responsibilities. Squadron commanders, section chiefs, and supervisors at all levels are responsible for ensuring compliance with this chapter

34.3. Procedures. The 60-day Aircraft Document Review.

34.3.1. The 62d MOS, Plans, Scheduling, and Documentation (PS&D) Element (MXOOS) will:

34.3.1.1. Schedule the aircraft for 60-day document review IAW AFI 21-101 in conjunction with the 60-day mid cycle wash. They will then verify there are no changes to the daily schedule that effect the aircraft document review at the 1300 meeting the day before the aircraft is scheduled to wash.

34.3.1.2. Implement the MXG Document Review Checklist (Attachment 47), the PS&D Document Review Checklist (Attachment 48), the AMXS/LRS Actions Required Spreadsheets (tabs at the bottom of the MXG Document Review Checklist located on the shared drive - M:\Shared by MOS SQ\MXOOS\MXG 60 Day Doc Rev\60 Day Document Review\MXG Document Review Checklist) no later than (NLT) 1600 hours the day prior to the scheduled aircraft document review. For instructions on how to navigate the MXG Document Review, refer to Attachment 51.

34.3.1.3. Follow up on the discrepancies identified to the AMXS crew chief and LRS for resolution as well as address any PS&D items from AMXS and LRS NLT 0900 hours the day of the scheduled aircraft wash.

34.3.1.4. Email any discrepancies remaining to all AMXS production supervisors and LRS for timely resolution as well as follow-up until all of the discrepancies are resolved. Save all email correspondence to the shared drive M:\Shared by MOS SQ\MXOOS\MXG 60 Day Doc Rev\60 Day Document Review

34.3.1.5. Inform the 62 MXG of incomplete aircraft 60-day document reviews at the 1300 meeting the day of the 60-day mid-cycle wash.

34.3.2. The 62 AMXS will:

34.3.2.1. Verify the aircraft scheduled for 60-day document review at the 1300 meeting and ensure a crew chief is assigned to perform the document review NLT 1600 hours the day prior to the 60-day aircraft wash.

34.3.2.2. Implement and complete all items required on the AMXS Document Review Checklist (Attachment 49) and resolve or respond to PS&D inquiries in the comments section on the AMXS Actions Required Spreadsheet (tab at the bottom of the MXG Document Review Checklist located on the shared drive - M:\Shared by MOS SQ\MXOOS\MXG 60 Day Doc Rev\60 Day Document Review\MXG Document Review Checklist) NLT 2000 hours the date of the assigned task.

34.3.2.3. Call LRS IAW AFI 21-101 to request initiation of the LRS Document Review Checklist (Attachment 50) and ensure the checklist is filled in and completed.

34.3.2.4. Ensure forms match G081 and are transcribed.

34.3.2.5. Follow-up on any unresolved discrepancies received from P&SD via email and return an email reply of all discrepancy completions to PS&D as well as address any concerns on the AMXS/LRS Actions Required Spreadsheets (tabs at the bottom of the MXG Document Review Checklist located on the shared drive - M:\Shared by MOS SQ\MXOOS\MXG 60 Day Doc Rev\60 Day Document Review\MXG Document Review Checklist) NLT 1600 the day of the aircraft wash.

34.3.2.6. Sign off the 60-day document review in G081 after all discrepancies are resolved.

34.3.2.7. Report to the 62 MXG/CC (or designated representative) the reason(s) why the aircraft document review was not accomplished at the 1300 meeting the following day.

34.3.3. 62 LRS will:

34.3.3.1. Initiate, fill in, and complete the automated LRS Document Review Checklist (Attachment 50) upon AMXS request and check the LRS Actions Required Spreadsheet (tab at the bottom of the MXG Document Review Checklist located on the shared drive - M:\Shared by MOS SQ\MXOOS\MXG 60 Day Doc Rev\60 Day Document Review\MXG Document Review Checklist) from AMXS and PS&D NLT 2300 hours the day prior to the scheduled aircraft document review.

34.3.3.2. Include name and man number on the automated LRS checklist (Attachment 50) and call AMXS crew chief upon checklist completion.

34.3.3.3. Follow up on any remaining PS&D and AMXS concerns NLT 1600 the day of the scheduled 60-day mid-cycle wash.

34.3.3.3.1. Report to the 62 MXG/CC (or designated representative) the reason(s) why the LRS Document Review Checklist and LRS Actions Required Spreadsheet were not completed at the 1300 meeting the day of the scheduled aircraft wash.

34.4. Other Related References. AFIs, AFOSH STDs, AWIs and TOs are listed in Attachment 1.

Chapter 35

ARRANGEMENT OF FORMS WITHIN THE AIRCRAFT FORMS BINDER

35.1. Introduction. This chapter, in accordance with TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*, establishes the arrangement of forms within the aircraft forms binder for all 62/446 AW C-17s. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/Commercial 253-982-5361)

35.2. Responsibilities. Squadron commanders, section chiefs, and supervisors at all levels are responsible for ensuring compliance with this chapter.

35.3. Procedures. IAW TO 00-20-1, forms shall be arranged in the following order:

35.3.1. AFTO Form 781F, Aerospace Vehicle Flight Status Report Maintenance Document.

35.3.2. AMC Form 498, Classified Equipment installed on cover of AFTO Form 781F as required.

35.3.3. 62 AMXS / 781 Forms Documentation Discrepancy Log (optional; remove prior to mission departure if used). See Attachment 28.

35.3.4. Nylon storage pouch on inside of front binder cover – Provision for storing 3.5" diskette, DD Form 1896, DoD Fuel Identaplate, Aviation Card (AVCARD) and Large Aircraft Infrared Counter Measures (LAIRCM) MUDM card (if applicable).

35.3.5. AFTO Form 781, Aircrew Mission Flight Data Document.

35.3.6. AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance.

35.3.7. AFTO Form 781A, Maintenance Discrepancy and Work Document.

35.3.8. Boeing Engineering Disposition Documents and Waivers (if applicable).

35.3.9. AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection, Delayed Discrepancy Document.

35.3.10. DELETED

35.3.11. AFTO Form 781J, Aircraft and Engine Operating Time.

35.3.12. AFTO Form 781D, Calendar and Hourly Item Inspection Document.

35.3.13. TCTO Status Report.

35.3.14. Previous Aircrew Discovered Discrepancies.

35.3.15. Serially Controlled End Item.

35.3.16. AFTO Form 781C, Avionics Configuration and Load Status.

35.3.17. OBLE Inventory Record (if applicable).

35.3.18. AFTO Form 781B, Communication Security Equipment Record.

35.3.19. AF IMT 664, Aircraft Fuels Documentation Log.

35.3.20. AFTO Form 781M, Status Symbols and Functional System Codes.

35.3.21. Julian Date Calendar.

35.3.22. AFTO Form 781G, General Mission Classification-Mission Symbols (LRA).

35.3.23. Misc forms.

35.4. Other Related References. AFIs, AFOSH STDs, AWIs and TOs are listed in Attachment 1.

35.5. Prescribed and Adopted Forms.

35.5.1. **Prescribed Forms:** MCCHORD AFB IMT 43, Lost Tool/Object Report

MCCHORD AFB IMT 43, Lost Tool/Object Report
MCCHORD AFB IMT 140; CTK Inventory and Control Log
MCCHORD AFB IMT146, Missing/Removed Tool Log
MCCHORD IMTs 199 and 605 can be found at the 62 AW Forms IMT website
MCCHORD AFB IMT 517, Dropped Object Report
MCCHORD AFB IMT 604, 62 MXG Confined Space Entry Permit
MCCHORD AFB IMT 605, Blade Blending Worksheet

35.5.2. **Adopted Forms:**

AF Form 55, Employee Safety and Health Record
AF IMT 483, Certificate of Competency
AF IMT 601, Equipment Action Request
AF Form 614, Charge Out Record
AF IMT 673, Air Force Publication Action Request
AF IMT 664, Aircraft Fuels/Ground Servicing Documentation Log
AF IMT 726; Transient Aircraft Service Record
AF IMT 981, Out of Order Tag
AF IMT 1297, Temporary Issue Receipt
AF Form 1492, Warning Tag
AF IMT 2005, Issue/Turn-In Request
AF IMT 2410, Inspection/TCTO Planning Checklist
AF IMT 2692, Aircraft/Missile Equipment Transfer/Shipping Listing
AFTO Form 20, Caution and Inspection Record
AFTO Form 22 Technical Manual Change Recommendation and Reply
AFTO IMT 95, Significant Historical Data
AFTO Form 134, Aviator Breathing Oxygen Servicing Trailer Log (Liquid/Gaseous)
AFTO Form 244, Industrial/Support Equipment Record
AFTO Form 245 Industrial/Support Equipment Record (Continuation Sheet)
AFTO Form 290, Aerospace Vehicle Delivery Receipt
AFTO Form 345, Aerospace Vehicle Transfer Inspection Checklist and Certification
AFTO Form 349, Maintenance Data Collection Record
AFTO Form 350, Repairable Item Processing Tag
AFTO Form 781, Arms Aircrew/Mission Flight Data Document
AFTO Form 781A, Maintenance Discrepancy and Work Document
AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance
AFTO Form 781J, Aerospace Vehicle-Engine Flight Document

AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document
AMC Form 41, Flight Authorization
AMC IMT 215, Equipment Checklist
AMC IMT 216, Inspection Checklist Coversheet
AMC IMT 220, Inspection Work Card Cover
AMC IMT 278, Debriefing and Recovery Preplan
DD Form 365-1, Weight Checklist Record, Chart A – Basic
DD Form 365-3, Weight and Balance Record, Chart C – Basic
DD Form 365-4, Weight and Balance Clearance Form F – Transport/Tactical
DD Form 1149, Requisition and Invoice/Shipping Document
DD Form 1348-1A, Issue Release/Receipt Document
DD Form 1348-6, DoD Single Line Item Requisition System Document
DD Form 1574, Serviceable Tag-Material
DD Form 2026, Oil Analysis Request
DD Form 2861, Cross Reference Sheets.
PHS Form 731, International Certificate of Vaccination

Chapter 36

*VEHICLE BACKING OPERATIONS

36.1. Introduction. This chapter establishes policies and procedures for vehicle backing operations. All personnel involved in vehicle backing operations shall be familiar with procedures outlined in AFMAN 24-306, *Manual for the Wheeled Vehicle Operator.* OPR for this chapter is 62 MXG/QAI (DSN 382-5361/3028/Commercial 253-982-5361/3028)

36.2. Responsibilities. Commanders and supervisors at all levels within the 62/446 MXG are responsible for enforcing this chapter.

36.3. No Ground Guide Required. Before any vehicle listed below is started for backing movement, the driver shall walk completely around the vehicle to verify clearance and determine a visual clear distance with a ground reference point from the cab of the vehicle. The driver will then sound the horn and back to the preselected ground reference point. Stop and repeat as necessary until the desired vehicle position is obtained. The following vehicles will not require a ground guide while backing:

36.3.1. General purpose vehicles that have 360 degrees visibility (without using mirrors)

36.3.2. Bobtail

36.3.3. Forklift

36.3.4. LSVs (golf cart, mule, gator, Daihatsu, etc.)

36.3.5. Flat Beds (If view is unobstructed)

36.3.6. Pickups (If view is unobstructed)

36.4. Ground Guide Required. Before any vehicle listed below is started for backing movement, a member of the crew or the driver must walk completely around the vehicle to ensure no one or object is in danger from the vehicle's movement. The ground guide will be positioned at the front or rear corners of the vehicle and must remain in full view of the vehicle operator anytime the vehicle is in motion. They should never be directly behind the vehicle. The ground guide will not position themselves between the vehicle being guided and another object where inadvertent engine surge or momentary loss of vehicle control could cause injury. The vehicle horn will be sounded before any backing operation is started. Flashlight/wands will be used when guiding a vehicle back at night. The following vehicles will require a ground guide while backing:

36.4.1. Multi Stop Trucks

36.4.2. Tow Vehicles

36.4.3. Condors

36.4.4. Deicers

36.4.5. Vans

36.4.6. Flat Beds (If loaded and view is obstructed)

36.4.7. Cranes

36.4.8. Pickups (If loaded and view is obstructed)

36.5. Congested Areas, Limited Visibility and Airfield Operations. One or more ground guides will be required when backing any vehicle in congested areas or during times of limited visibility. **All** vehicle backing operations performed on the airfield within 25 feet of an aircraft will be accomplished in accordance with MAFBI 13-4, *Airfield Driving*, paragraph 2.18.

36.6. No Ground Guides Available. If there is ***absolutely no one available*** to perform ground guide duties, the vehicle operator will walk completely around the vehicle to verify clearance and determine a visual clear distance with a ground reference point from the cab of the vehicle. Once in the vehicle, the operator will sound the horn and back to the rear of the pre-selected ground reference point. Stop and repeat the process as necessary until the desired vehicle position is obtained.

36.7. Other Related References. AFIs, AFOSH STD, AWIs and TOs are listed in Attach 1.

Chapter 37

*MAINTENANCE PROCEDURES WHILE AIRCRAFT ARE ON JACKS

37.1. Introduction. This chapter is to be used conjunction with AFOSH STD 91-100AMC SUP I, *Aircraft Flight Line-Ground Operations and Activities,* Chapter 3. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/3028/Commercial 253-982-5361/3028)

37.2. Responsibilities. Commanders and supervisors at all levels within the 62/446 MXG are responsible for enforcing this chapter.

37.3. Aircraft Maintenance. Maintenance is authorized while an aircraft is on tripod jacks (full fuselage or nose jacking configuration) provided the following conditions are met:

37.3.1. Either a Production Superintendent or Dock Controller must run ORM and MRM principles to authorize maintenance unrelated to the reason for the aircraft fuselage jack.

37.3.2. No operation or removal of aircraft ramp/cargo door, flight controls or engines shall take place.

37.3.3. **No work shall be performed on top of the aircraft or inside the tail area.**

37.3.4. Safety requirements have been reviewed and the aircraft is in a safe and stable configuration.

37.3.5. **Either a Production Superintendent or Dock Controller has approved the maintenance action.**

37.4. Other Related References. AFIs, AFOSH STD, AWIs and TOs are listed in Attach 1.

Chapter 38

*ABOVE IDLE ENGINE RUN

38.1. Introduction. This chapter establishes procedures for post engine change operational run procedures. This maintenance concept is intended to prevent quality escapes that have led to late takeoffs, ground emergencies and ground aborts. OPR for this chapter is 62 MXG/QAI (DSN 382-5361/3028/Commercial 253-982-5361/3028)

38.2. Responsibilities. Commanders and supervisors at all levels within the 62/446 MXG are responsible for enforcing this chapter.

38.3. Procedures.

38.3.1. The current Technical Order (TO) requirement for engine replacement is to perform an idle engine run leak check per TO 1C-17A-2-71JG-00-1, *Organizational Maintenance, Job Guide, Power Plant General,* tasks 01-3, 01-4, and 01-6. In addition TO 1C-17A-2-71JG-00-3, *Organizational Maintenance, Job Guide, Power Plant General,* task 01-34 will also be mandatory for all engine replacements.

38.3.2. In addition, during post Home Station Check backline runs TO 1C-17A-2-71JG-00-3, task 01-34, will also be mandatory.

38.4. Other Related References. AFIs, AFOSH STD, AWIs and TOs are listed in Attach 1.

KEVIN J. KILB, Colonel, USAF
Commander, 62d Airlift Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

TO 00-5-1, *AF Technical Order System*

TO 00-5-15, *AF Time Compliance Technical Order Process*

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*

TO 00-20-2, *Maintenance Data Documentation*

TO 00-25-107, *Maintenance Assistance*

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*

TO 00-35D-54, *Material Deficiency Reporting and Investigation System*

TO 00-105E-9, *Aircraft Emergency Rescue Information*

TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*

TO 1-1-8, *Application and Removal of Organic Coatings*

TO 1-1-300, *Acceptance/Functional Check Flights and Maintenance Operational Checks*

TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non Aerospace Equipment*

TO 1-1B-50, *Basic Technical Order for USAF Aircraft Weight and Balance*

TO 1C-17A-1, *Flight Manual*

TO 1C-17A-2-00FR-00-1, *Fault Reporting Manual*

TO 1C-17A-2-00JG-00-1, *Organizational Maintenance Job Guide*

TO 1C -17A-2-07JG-10-1, *Jacking and Stabilization Jacking Job Guide*

TO 1C-17A-2-31GS-00-1, *Indicating and Recording Systems*

TO 1C-17A-2-31JG-30-1, *Indicating and Recording Systems, Recorders Job Guide*

TO 1C-17A-2-71JG-00-1, *Organizational Maintenance, Job Guide, Power Plant, General*

TO 1C-17A-2-71JG-00-1, *Power Plant General Job Guide*

TO 1C-17A-2-71JG-00-3, *Organizational Maintenance, Job Guide, Power Plant, General*

TO 1C-17A-3-1, *Structural Repair Standard Practices*

TO 1C-17A-3-8, *Disabled Aircraft and Special Maintenance*

TO 1C-17A-5-1, *Basic Weight Checklist*

TO 1C-17A-5-2, *Loading Data*

TO 1C-17A-6, *Inspection requirements*

TO 1C-17A-6CF-1, *Acceptance and/or Functional Check Flight Procedures*

TO 1C-17A-6CL-1, *Acceptance and/or Functional Check Flight Checklist*

TO 1C-17A-6WC-1, P*reflight, Thruflight, Postflight, and Combined Preflight and Postflight*

TO 1C-17A-23, *System Peculiar Corrosion Control*

TO 1C-17A-33-1-2-1CL-1, *Non-nuclear Munitions Loading Procedures AN/ALE-47 Countermeasures Dispensing System (IRCM)*

TO 1C-17A-33-1-2-2CL-1, *Non-Nuclear Munitions Loading Procedures AN/ALE47 Countermeasures Dispensing System (Non IRCM Aircraft)*

TO 4T-1-3, *Inspection, Maintenance Instructions, Storage, and Disposition Aircraft Tires and Inner Tubes*

TO 11A-1-33, *Handling and Maintenance of Explosive-Loaded Aircraft*

TO 11A16-40-7, *Specialized Storage and Maintenance Procedures*

TO 11A16-43-7, *Flare, Infrared (IR) Countermeasures*

TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools*

TO 33-1-37-1, *Joint Oil Analysis Program Laboratory Manual*

TO 35-1-3, *Corrosion Prevention, Painting and Marking Air Force Equipment*

AFI 10-403, *Deployment Planning and Execution*

AFI 10-703, Elect*ronic Warfare Integrated Reprogramming*

AFI 11-2C-17V3, *C-17 Operations Procedures*

AFI 11-202V3, *General Flight Rules*

AFI 11-299, *Nuclear Airlift Operations*

AFI 11-401, *Aviation Management*

AFI 21-101, *Aircraft and Equipment Maintenance Management*

AFI 21-101 AMCSUP Addenda C, *C-17 Dropped Object Prevention Program (DOPP) Checklist*

AFI 21-101 AMCSUP 1, *Aircraft and Equipment Maintenance Management*

AFI21-101 AMCSUP CL3, C-17 Debriefing Checklist

AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*

AFI 21-105, *Aerospace Equipment Structural Maintenance*

AFI 32-1053, *Pest Management Program*

AFI 33-360, *Publication Management Program*

AFI 36-2833, *Safety Awards*

AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*

AFI 63-1001, *Aircraft Structural Integrity Program*

AFI 63-124, *Performance Based Service Contracts*

AFI 90-901, *Operational Risk Management*

AFI 91-202, *USAF Mishap Prevention Program*

AFI 91-204, *Safety Investigations and Reports*

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health Program*

AFJI 48-104, *Quarantine Regulations of the Armed Forces*

AFMAN 23-110, *USAF Supply Manual*

AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*

AFMAN 24-306, Manual for the Wheeled Vehicle Operator

AFMAN 32-4004, *Emergency Response Operations*

AFMAN 32-4013, *Hazardous Material Emergency Planning and Response Guide*

AFMAN 91-201, *Explosives Safety Standards*

AMCI 21-108, *Logistics Support Operations*

AMCI 21-119, *Corrosion Control Program*

AMCI 36-2805, *Safety Awards Program*

AFOSH Standard 48-8, *Controlling Exposures to Hazardous Materials*

AFOSH Standard 48-137, *Respiratory Protection Program*

AFOSH Standard 91-25, *Confined Spaces*

AFOSH Standard 91-38, *Hydrocarbon Fuels-General*

AFOSH Standard 91-66, *General Industrial Operations*

AFOSH Standard 91-68, *Chemical Safety*

AFOSH Standard 91-100, *Aircraft Flight Line-Ground Operations and Activities*

AFOSH Standard 91-501, *Air Force Consolidated Occupational Safety Standard*

MAFBI 13-4, Airfield Driving Instruction

DOD 7000.14R, *Department of Defense Financial Management Regulation*

Federal Aviation Administration Advisory Circular 120-72, *Maintenance Resource Management Training*

LCL 62 MXG-5, *Hangaring of All Assigned and Transient Aircraft*

MC Concept of Operations for Employing Defensive Systems

Memorandum of Understanding, Boeing C-17A Globemaster III Sustainment Partnership Contract

SPLAN 191-98, *Oil and Hazardous Substance Pollution Contingency Plan 3*

SPLAN 677-03, *Mishap Response Plan for Flight Mishap Safety Investigation*

62 AW CAP, *Contingency Action Plan*

62 AW FSTR 10-2, *Full Spectrum Action Plan*

62 AWI 21-3, *Ramp Operations Procedures*

62 AWI 91-202, *Commander's Mishap Prevention Program*

Abbreviations and Acronyms

62 APS— 62 Aerial Port Squadron

446th AW— 446th Airlift Wing

LRS/APS—Aircraft Parts Store

446 OG/DOV— 446th Operations Group/ Standardization Evaluation Division

62 AMXS— 62d Aircraft Maintenance Squadron

62 AMXS/MXA— 62d Aircraft Maintenance Squadron Maintenance Operations

62 AW— 62d Airlift Wing

62 AW/CC— 62d Airlift Wing Commander

62 AW/CP— 62d Airlift Wing/ Command Post

62 AW/MOC— 62d Airlift Wing Maintenance Operation Control

62 AW/SE— 62d Airlift Wing Safety Office

62 AW/SEG— 62d Airlift Wing Ground Safety

62 CES— 62d Civil Engineering Squadron

62 CES/CEF— 62d Civil Engineering Squadron Fire Protection Flight

62 MDS— 62d Medical Squadron

MDS/SGPB— 62d Medical Squadron Bioenvironmental Engineering

62 MOS— 62d Maintenance Operations Squadron

62 MOS/MXOO— 62d Maintenance Operations Squadron, Maintenance Operations Flight Commander

62 MOS/MXOOS— 62d Maintenance Operations Squadron Plans, Scheduling, and Documentation Office

62 MOS/MOC— 62d Maintenance Operations Squadron Maintenance Operations Center

62 MXG/CC— 62d Maintenance Group Commander

62 MXG/QAE— 62d Maintenance Group Quality Assurance Evaluators

62 MXG/QAP— 62d Maintenance Group Product Improvement Office

62 MXS— 62d Maintenance Squadron

62 MXS/MXM— 62d Maintenance Squadron Maintenance Supervision

62 MXS/MXMCF— 62d Maintenance Squadron Fuel Systems Section Chief

62 MXS/MXMF— 62d Maintenance Squadron Fabrication Flight

62 MXS/MXMW— 62d Maintenance Squadron Munitions Control

62 MXS/SEG— 62d Maintenance Squadron Safety Manager

62 SFS/S3— 62d Security Forces Squadron Operations Flight

62/446 MXG— 62d/446th Maintenance Group

ABDR— Aircraft Battle Damage Repair

ABSS— Automated Business Services System

AC— Advisory Circular

ACCP— AGE Corrosion Control Program

ACM— Advanced Composite Material

ACM— Auxiliary Crew Member

ACPINS— Automated Computer Program Identification Number System

ACPO— Advanced Composites Program Office

ADCC— Assistant Dedicated Crew Chief

ADITS— Aircraft Diagnostic and Integrated Test System

ADS— Aerial Delivery System

AECPA— Aircraft Explosive Cargo Parking Area

AEF— Aerospace Expeditionary Force

AETC— Air Education and Training Command

AFI— Air Force Instruction

AFOSH— Air Force Occupational Safety and Health

AFOSH STD— Air Force Occupational Safety and Health Standard

AFOSI— Air Force Office of Special Investigation

AFSC— Air Force Specialty Code

AFO— Accounting and Finance Office

AFTO— Air Force Technical Order

AGE— Aerospace Ground Equipment

AGL— Above Ground Level

ALC— Air Logistics Center

AMC— Air Mobility Command

AMCSUP— Air Mobility Command Supplement

AMHS— Automated Message Handling System

AMOS— Aircraft Maintenance Operations Support

AMU— Aircraft Maintenance Unit

AMXS— Aircraft Maintenance Squadron

AMXS/MXA— Aircraft Maintenance Squadron Maintenance Operations

APU— Auxiliary Power Unit

APS— Aerial Port Squadron

APS/TRO— Aerial Ports Squadron/Air Terminal Operations Center

AQL— Acceptable Quality Level

ART— Air Reserve Technician

AS— Airlift Squadron

ASF— Aircraft Support Flight

ASIP— Aircraft Structural Integrity Program

ASM— Aircraft Structural Maintenance

ATOC— Air Terminal Operations Center

ATOMS— Automated Technical Order Management System

AVCARD— Aviation Card

AW— Airlift Wing

AWI— Air Wing Instruction

BE— Bioenvironmental Engineering

BPO— Basic Postflight

CAMS— Core Automated Maintenance System

CANN— Cannibalization

CAT— Category

C/B— Circuit Breaker

CBT— Computer Based Training

CC— Commander

CCP— Corrosion Control Program

CCF— Corrosion Control Facility

CD— Deputy Commander

CDDAR— Crashed, Damaged, or Disabled Aircraft Repair

CED— Contingency Exercise Deployment

CEI— Controlled End Item

CES— Civil Engineering Squadron

CG— Center of Gravity

CMDS— Countermeasures Dispensing System

CPR— Cardiopulmonary Resuscitation

CRT— Crash Recovery Team

CRTC— Crash Recovery Team Chief

CSEP— Confined Space Entry Permit

CTK— Composite Tool Kit

CTI— Critical Tire Inspection

CVR— Cockpit Voice Recorder

DCC— Dedicated Crew Chief

DCG— Disaster Control Group

DIFM— Due In From Maintenance

DOP— Dropped Object Prevention

DOPP— Dropped Object Prevention Program

DOV— Deputy of Operations for Standardization and Evaluation

DR— Deficiency Report

DS— Defensive Systems

DSV— Detected Safety Violation

DTS— Defense Travel System

ECM— Electronic Countermeasures

ED— Engineering Disposition

EET— Exercise Evaluation Team

ELEN— Electrical and Environmental Shop

EMB— Engine Management Branch

EPE— Evaluator Proficiency Evaluation

EOD— Explosive Ordnance Disposal

ER— Exceptional Release

ERCC— Engine Running Crew Change

ETIC— Estimated Time in Commission

ETIMS— Enhanced Technical Information Management System

EWS— Electronic Warfare Systems

FAA— Federal Aviation Administration

FCF— Functional Check Flight

FCMT— Flight Control Maintenance Team

FI— Fault Isolation

FTD— Field Training Detachment

FO— Foreign Object

FOD— Foreign Object Damage

FS— Fuselage Station

G081— CAMS for Mobility

GLOC— Geographic Location

GLTODO— Group Lead Technical Order Distribution Office

GPC— Government Purchase Card

GRIP— Global Reach Improvement Program

GTC— Government Travel Card

HAP— High Accident Potential

HAZMAT— Hazardous Material

HC/D— Hazard Class/Division

HEPA— High Efficiency Particulate Air

HF— High Frequency

HSC— Home Station Check

HSTC— High Speed Taxi Check

I&E— Inspection and Evaluation

IAW— In Accordance With

IC— Incident Commander

IDLH— Immediate Danger to Life and Health

IDO— Installation Deployment Officer

IFCS— Instrument and Flight Control System

IFE— In Flight Emergency

IMT— Information Management Tool

IPB— Illustrated Parts Breakdown

IO— In Flight Operational Check

INMARSAT— International Maritime Satellite

ISD— Instructional Systems Design

JCALS— Joint Computer Aided Acquisitions and Logistics Support

JCN— Job Control Number

JG— Job Guide

JOAP— Joint Oil Analysis Program

LAIRCM— Large Aircraft Infrared Countermeasures

LAN— Local Area Network

LCL— Local Checklist

LCTI— Limited Critical Tire Inspection

LEL— Lower Explosive Limit

LEP— List of Effective Pages

LJG— Local Job Guides

LOGNET— Logistics Network Contractor

LOTI— Local Generated One—Time Inspection

LOX— Liquid Oxygen

LRS— Logistics Readiness Squadron

LRU— Line Replaceable Unit

LSEP— Logistics Standardization and Evaluation Program

LSET— Logistics Standardization and Evaluation Team

LWC— Local Work Cards

MASO— Munitions Accountable Systems Officer

MC— Mission Contributing

MCCP— Munitions Corrosion Control Program

MDC— Maintenance Data Collection

MDS— Medical Squadron

MDR— Maintenance Deficiency Report

MDS— Mission, Design, and Series

MDSA— Maintenance System Data Analyst (G081)

ME— Mission Essential

MEED— Maintenance Error Event Decision

MEGP— Mission Essential Ground Personnel

MEP— Master Entry Plan

MESL— Mission Essential Subsystems List

MIL— Master Inventory List

MMHE— Munitions Material Handling Equipment

MIKE 2— 62d Maintenance Squadron Production Superintendent

MOC— Maintenance Operations Center

MOF— Maintenance Operations Flight

OO— Operations Officer

MOS— Maintenance Operations Squadron

MOS/MOC— Maintenance Operations Squadron/Maintenance Operations Center

MOS/MXOOS— Maintenance Operations Squadron Plans, Scheduling, and Documentation

MQTP— Maintenance Qualification Training Program

MRM— Maintenance Resource Management

MRT— Maintenance Recovery Team

MSEP— Maintenance Standardization and Evaluation Program

MSG— Mission Support Group

MTD— Maintenance Training Devices(s)

MUDM— Maintenance Unit Data Module

MXG— Maintenance Group

MXGI— Maintenance Group Instruction

MXG/QAI— Maintenance Group Quality Assurance Inspector Section

MXG/QAP— Maintenance Group Quality Assurance Product Improvement Office

MXMF— Fuels Flight

MXMG— AGE Flight

MXMW— Munitions Flight

MXS— Maintenance Squadron

MXS/MXMT—Maintenance Squadron, Maintenance Flight

NCOIC— Noncommissioned Officer in Charge

NDA— National Defense Area

NDI— Nondestructive Inspection

NMC—Not Mission Capable

NOC— Negotiated Order Change

NPR— Non-Permit Required

OBIGGS— Onboard Inert Gas-Generating System

OCF— Operational Check Flight

OEL— Occupational Exposure Limit

OIC— Officer in Charge

OJT—On the Job Training

OG— Operations Group

OG/OGV— Operations Group/Standardization Evaluation Division

OGV— Operations Group Standardization and Evaluation

OPR— Office of Primary Responsibility

ORM— Organizational Risk Management

OSO— Deputy Current Operations Flight

OSS— Operations Support Squadron

OTI— One Time Inspection

PDM— Programmed Depot Maintenance

PE— Personal Evaluation

PERSCO— Personnel Support for Contingency Operations

PF— Preflight

PMB— Plastic Media Blasting

PMEL— Precision Measurement Equipment Laboratory

PNAF— Prime Nuclear Airlift Force

POC— Point of Contact

PPE— Personal Protective Equipment

PPM— Parts Per Million

PPQ— Plant Protection and Quarantine

PR— Permit Required

PRD— Pilot Reported Discrepancy

PRF— Personnel Readiness Function

PRO SUPER— Production Superintendent

PS&D— Plans, Scheduling, and Documentation

QA— Quality Assurance

QAE— Quality Assurance Evaluator

QAI— Quality Assurance Inspection

QANTTAS— Quality Assurance Tracking and Trend Analysis System

QAP— Quality Assurance Product Improvement Office

QAPT— Quality Assurance Program Inspection Target

QAR— Quick Access Recorder

QDR— Quality Deficiency Report

QI— Quality Assurance Inspector

QPL— Qualified Products Listing

QRC— Quick Reaction Checklist

QTP— Qualification and Training Program

QVI— Quality Verification Inspection

RAMS— Recovery and Modification Services

REDI— Request for Engineering Disposition Instruction

REF DES— Reference Designator

RF LAN— Radio Frequency Local Area Network

RIL— Routine Inspection List

ROS— Report of Survey

SABER 3— 62d Aircraft Maintenance Squadron Line Chief

SCBA— Self Contained Breathing Apparatus

SCR— Special Certification Roster

SE— Support Equipment

SFDR— Standard Flight Data Recorder

SFS— Security Forces Squadron

SI— Special Inspection

SIB— Safety Investigation Board

SNCO— Senior Non Commissioned Officer

SPO— Special Program Office

S/SS/SN— System Number/Subsystem Number/ Subject Number

TA— Transient Alert

TACC/XOCL— Tanker Airlift Control Center, Logistics Control

TAS— Tool Accountability System

TCI— Time Change Item

TCN— Transportation Control Number

TCTO— Time Compliance Technical Order

TDV— Technical Data Violation

TDY— Temporary Duty

TKC— Think Ahead, Know the Risks, and Choose to be Safe

TI— Technical Inspection

TMF— Traffic Management Flight

TNB— Tail Number Bin

TO— Technical Order

TODA— Technical Order Distribution Account

TODO— Technical Order Distribution Office

TOPS— Technical Order Page Supplement

TRS— Training Squadron

UCR— Unsatisfactory Condition Report

UHF— Ultra High Frequency

ULN— Unit Line Number

USAF— United States Air Force

USDA— United States Department of Agriculture

UTC— Unit Type Code

VHF— Very High Frequency

WA— Web Access

W&B— Weight and Balance

WC— Work Card

WTQC— Weapons Task Qualification Crew

WTQM— Weapons Task Qualification Manager

WUC— Work Unit Code

WWID— Worldwide Identifier

LOGNET— Logistics Network Contractor

Terms

Authorized Personnel—Those individuals directly involved in investigating, managing, troubleshooting, or repairing impounded aircraft or collecting aircraft records and personnel directly involved with sealing aircraft and eliminating pests, soils, and organic debris.

Controlling Agency—The controlling agency will normally be the 62 MXG.

Composite Tool Kit— A tool box or tool cabinet used to support small work centers (i.e., PMEL and Avionics Flight) that do not have a tool room. These tool kits are controlled in the same manner as tool rooms and normally do not dispatch tools outside the work center.

Dispatchable Tool Kit— normally referred to as a composite tool kit (CTK), these kits are self contained and are dispatchable outside the work center. Normally used in maintenance operations to contain the tools required to accomplish specific maintenance tasks. These kits are inventoried when issued to an individual from a tool room or composite tool kit and again upon its return.

Fixant— Hold-down solution, consisting of either acrylic floor wax/water mixed in a 10:1 water to wax ratio, or Polyacrylic Acid (i.e., PAA-Carboset XL-11)

Impoundment/Quarantine—A period of time for intensified and controlled aircraft management.

Impoundment/Quarantine Authority—The 62 MXG/CC or designated representative may direct impoundment/quarantine.

Master Inventory List— A MIL consists of a master inventory, McChord AFB IMT 140, *CTK* Inventory and Control Log, and a McChord AFB IMT 146, Missing/Removed Tool Log.

Off-Shore Support— A process in which a part is needed from a McChord assigned aircraft for an aircraft broke enroute at a non-G081 location. This JCN would be loaded by the McChord MOC against the broke, off station aircraft using a 5300 series JCN. A normal CANN job would

be loaded on the aircraft the part is being CANN—ed from.

TC MAX—tool control program that replaces TAS (Tool Accountability System)

Tool Room— An area where tools, tool kits, and special equipment is stored, inspected, issued and received.

Attachment 2

HANGAR DOOR OPERATION

Figure A2.1. Hangar Door Operation.

COMMON WARNING INFORMATION MUST BE POSTED WITH ALL ATTACHMENTS

WARNING: CHECK DOOR TRACKS TO ENSURE THEY ARE CLEAR OF PERSONNEL, EQUIPMENT AND DEBRIS

WARNING: FOR SAFETY OF PERSONNEL, HANGAR DOOR OPENING WILL BE MINIMUM OF 10 FEET

WARNING: USE EAR PROTECTION WHEN OPERATING DOORS

WARNING: ENSURE THAT EXTERIOR OPERATOR DOOR IS CLOSED. THE HANGAR DOOR CANNOT BE MOVED IF THE EXTERIOR OPERATOR DOOR IS OPEN.

WARNING: DO NOT MOVE DOORS BY HAND OR WITH A VEHICLE.

WARNING: HANGAR DOORS WILL NOT BE OPERATED (OPEN) DURING SEVERE WEATHER CONDITION (WIND WARNING CONDITION 2, WINDS AT OR EXCEEDING 20-KNOTS) AND WILL REMAIN CLOSED - IAW 62 MOS/MOC SEVERE WEATHER QUICK REACTION CHECKLIST (QRC).

Attachment 3

HANGARS 1 THROUGH 4 DOOR OPENING INSTRUCTIONS

A3.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A3.2. Ascertain that door coupling pins are installed between doors.

A3.3. To open main doors, press the "Open" button, and hold it until the doors are aligned with the full open mark on the hangar floor (warning horn sounds for five seconds before door moves). ***WARNING:*** ALL MAIN HANGAR DOORS MUST BE FULLY OPEN BEFORE OPERATING THE ELECTRICALLY CONTROLLED OVERHEAD "T" TAIL DOOR

A3.4. To open the overhead door, press the "T" – Tail "Open" button.

A3.5. Vertical door will travel to the "open" position until "up" limit switches are activated or "push" button is released, automatically stopping drive motor.

A3.6. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981, Out of Order Tag, and an emergency work order will be called into DSN 382-5739. The 62 MOS/MOC will be notified of this condition at DSN 382-3336/5704. Also contact the facility managers.

Attachment 4

HANGARS 1 THROUGH 4 DOOR CLOSING INSTRUCTIONS

A4.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A4.2. Ensure that door coupling pins are installed between doors. ***WARNING:*** THE ELECTRICALLY CONTROLLED OVERHEAD "T" TAIL DOOR MUST BE CLOSED BEFORE CLOSING MAIN HANGAR DOORS

A4.3. To close "T" – Tail door, press "T" – Tail "Door Close" button (warning horn sounds for five seconds before door moves).

A4.4. Vertical door will travel to the "closed" position until "down" limit switches are activated or "push" button is released, automatically stopping drive motor.

A4.5. To close main doors, press "Close" button, and hold it until the doors are closed (warning horn sounds for five seconds before door moves).

A4.6. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704.

Attachment 5

HANGAR 5 (BUILDING 1178) DOOR OPENING/CLOSING INSTRUCTIONS

A5.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A5.2. Hangar door operating procedures: ***CAUTION:*** ENSURE PERSONNEL DOORS ARE CLOSED

A5.2.1. Push the button marked "Open" at the leading edge of the door. The door will automatically stop at the door pocket.

A5.3. Hangar door closing procedures:

A5.3.1. Close the main doors by pushing the "Close" switch at the leading edge of the door until the door automatically stops at the center of the hangar. ***CAUTION:*** WHEN CLOSING DOORS WITH AN AIRCRAFT IN HANGAR, ENSURE APERTURE DOORS ARE FULLY OPENED AND LOCKED

A5.4. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704.

Attachment 6

FUEL SYSTEMS REPAIR HANGAR 13 (BUILDING 1174) DOOR OPENING/CLOSING INSTRUCTIONS

A6.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A6.2. Manually turn off hangar heater switches prior to opening doors. ***CAUTION:*** ENSURE PERSONNEL EXIT DOORS ARE CLOSED

A6.3. To open doors, press and hold "Door Open" control switch located on center main doors until fully opened (forward edge of the main center door must align with hangar door clearance line). ***CAUTION:*** WHEN CLOSING DOORS WITH AN AIRCRAFT IN THE HANGAR, ENSURE APERTURE DOORS ARE FULLY OPENED AND LOCKED

A6.4. To close doors, press and hold "Door Close" control switch located on center main doors until fully closed.

A6.5. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704.

A6.6. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A6.7. Manually turn off hangar heater switches prior to opening doors. ***CAUTION:*** ENSURE PERSONNEL EXIT DOORS ARE CLOSED

A6.8. To open doors, press and hold "Door Open" control switch located on center main doors until fully opened (forward edge of the main center door must align with hangar door clearance line). ***CAUTION:*** WHEN CLOSING DOORS WITH AN AIRCRAFT IN THE HANGAR, ENSURE APERTURE DOORS ARE FULLY OPENED AND LOCKED

A6.9. To close doors, press and hold "Door Close" control switch located on center main doors until fully closed.

A6.10. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704.

A6.11. To open cover door pull up detent pin and hold, ensure micro switch is engaged or door will not operate. Press open button on control panel and follow door to fully open position.

A6.12. Ensure door is in fully open position by aligning detent pin to detent pin guide. Insert detent pin into detent pin guide disengaging micro switch.

A6.13. To close cover door follow steps above in reverse order.

Attachment 7

NOSE DOCKS HANGAR 8 (BUILDING 1165) AND HANGAR 12 (BUILDING 1170) MANUAL HANGAR DOOR OPENING/CLOSING INSTRUCTIONS

A7.1. Only qualified personnel will be authorized to operate the hangar doors. Please note that these hangars should not be used for aircraft as there are no wheel placement markings on the floor. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly.

A7.2. Hangar door opening procedures:

A7.2.1. Ensure door lock pins are unlocked and retracted.

A7.2.2. Manually push hangar doors open until they are firmly against the door stops and aligned with the full open mark on the hangar floor.

A7.3. Hangar door closing procedures. Manually push hangar doors closed until closed or come up against doorstoppers.

A7.4. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704. Also, contact the facility managers.

Attachment 8

DOOR OPERATING PROCEDURES FOR BUILDING 1164, 1166 AND 1167 (HANGARS 7, 9 & 10)

A8.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be strictly followed.

A8.2. Before operating main hangar doors (open or close).

A8.2.1. Check main door and Closure Door operator cabinet doors to ensure they are completely closed.

A8.2.2. Closure Door is locked in the "Open" or "Closed" position.

A8.2.3. Closure Door and Main Door jaw clutch assemblies are engaged (red light on panel is not on).

A8.2.4. Make sure the disconnect switch is in the "ON" position.

A8.2.5. Safety Edge Ready (green light on main panel). **NOTE:** If safety switches are not met, the horn and light will not activate and doors will not move. ***CAUTION:*** WHEN CLOSING DOORS, ENSURE POSITIVE STEPS ARE TAKEN TO AVOID CONTACT WITH AIRCRAFT. ***CAUTION:*** ENSURE PERSONNEL EXIT DOORS ARE CLOSED. ***CAUTION:*** WHEN CLOSING DOORS WITH AN AIRCRAFT IN HANGAR, ENSURE APERTURE DOORS ARE FULLY OPENED AND LOCKED. **NOTE:** If door fails to operate, check emergency exit doors to see if they are fully closed.

A8.3. To "Open" or "Close" the main hangar doors (with closure door locked closed).

A8.3.1. Depress and maintain pressure on either "OPEN" or "CLOSED" push button.

A8.3.2. When the door arrives at the full "OPEN" or "CLOSED" position it will stop automatically.

A8.4. To close the main hangar doors (closure door locked open).

A8.4.1. Depress and maintain pressure on the "CLOSE" push button.

A8.4.2. When the door arrives at the full "CLOSED" position it will stop automatically.

A8.5. To "OPEN" the main hangar doors (with closure door locked open), the operation is the same as with the closure door locked closed.

A8.6. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704. Also, contact the facility managers. ***CAUTION:*** WHEN CLOSING DOORS, ENSURE POSITIVE STEPS ARE TAKEN TO AVOID CONTACT WITH AIRCRAFT.

A8.7. To "OPEN" or "CLOSE" the closure door: NOTE: The following applies to Bldg 1164 (Hangar 7):

A8.7.1. To open closure door push down on detent pin and rotate till alignment of pin guide allows detent pin to the fully up position (pin is spring loaded); ensure micro switch is

engaged or door will not operate. Press open button on control panel and follow door to fully open position.

A8.7.2. Ensure door is in the fully open position by aligning detent pin to detent pin guide. Insert detent pin into guide by compressing the spring and rotating the detent pin to the locked position when in the fully down position disengaging the micro switch.

A8.7.3. To close closure door follow above steps in reverse order. NOTE: The following applies to Bldg 1166 (Hangar 9) and Bldg 1167 (Hangar 10):

A8.7.4. To open closure doors rotate and remove cane bolt.

A8.7.5. Depress and maintain the pressure on either the "OPEN" or "CLOSED" push button.

A8.7.6. The door will stop automatically when reaching the full "OPEN" or "CLOSED" position.

A8.7.7. Lock the closure door with the cane bolt after arriving in the full "OPEN" or "CLOSED" position. **NOTE:** If the hangar door strikes an object with the safety edge, the door will stop and can no longer be moved in that direction (red light on main panel will come on). Depressing the open push button will cause the door to move away from the obstruction and automatically reset the safety edge circuit (green light on main panel will come back on). Normal operation will now be resumed.

A8.8. To "RETRACT" or "EXTEND" the aperture door.

A8.8.1. Depress and maintain pressure on either the "RETRACT" or "EXTEND" push button.

A8.8.2. The doors will stop automatically when they are fully "EXTENDED" or "RETRACTED." **NOTE:** In the "EXTEND" direction if any of the cushion limit switches are tripped, the door will stop automatically.

A8.9. To "RAISE" or "LOWER" the aperture door.

A8.9.1. Depress and maintain the pressure on either the "RAISE" or "LOWER" push button.

A8.9.2. When the door arrives at the full "RAISE" or "LOWER" position, it will stop automatically.

A8.10. To operate doors manually:

A8.10.1. Turn the disconnect switch to the "Off" position.

A8.10.2. Move the jaw clutch disconnect handle to the disengaged position.

A8.10.3. Move the hangar doors using external power (tractor, aircraft tug, etc.). **NOTE:** Pull the door with a chain or similar device. Never push on the door itself with any vehicle.

A8.10.4. Move the door very slowly during manual operation.

A8.10.5. After moving the doors, return jaw clutch to the "ENGAGED" position to prevent doors from moving.

Attachment 9

OPERATING PROCEDURES FOR OPENING AND CLOSING HANGAR DOORS AT THE CORROSION CONTROL FACILITY HANGAR 6 (BLDG 1160)

A9.1. Only qualified personnel will be authorized to operate the hangar doors. Operators will be thoroughly familiar with these operating instructions and will be certified IAW established procedures. The following sequence of door operations will be adhered to strictly. ***WARNING:*** IF VENTILATION SYTEM IS ON, CHECK WITH CORROSION FACILITY PERSONNEL BEFORE OPENING HANGAR DOORS.

A9.2. Opening hangar doors while ventilation system is on will shut down the system. If CCF personnel are not available, contact Structural Repair, 982-5375. ***CAUTION:*** ENSURE PERSONNEL EXIT DOORS ARE CLOSED.

A9.3. To open doors, press and hold "Door Open" control switch located on center main doors until fully opened (door full open mark on hangar floor).

A9.4. To close doors, press and hold "Door Close" control switch located on center main doors until fully closed.

A9.5. Doors that fail to operate properly will be locked and tagged by authorized personnel with an AF IMT 981 and an emergency work order will be called in at DSN 382-5739. The 62 MOS/ MOC will be notified of this condition at DSN 382-3336/5704. Also, contact the facility managers.

Attachment 10

G081 HANGAR DOOR TRAINING COURSE CODES

Table A10.1. G081 Hangar Door Training Course Codes.

TYPE OF TRAINING	G081 COURSE CODE
Annual Awareness Training	SAFE 1100
Hangar Door Operations Hangars 1-4	MCCH 001104
Hangar Door Operations Hangar 5	MCCH 001178
Hangar Door Operations Hangar 6	MCCH 001160
Hangar Door Operations Hangars 7, 9 & 10	MCCH 001107
Hangar Door Operations Hangar 8 & 12	MCCH 001108
Hangar Door Operations Hangar 13	MCCH 001174

Attachment 11

EMERGENCY EVACUATION PROCEDURES

A11.1. The following procedures are for emergency evacuation from an aircraft fuel tank. These procedures apply to all fuel systems repair areas (Bldg 1174, and temporary repair facility Bldg 1164, and the outside fuel systems repair area, aircraft parking spot C-1). All personnel involved in fuel systems maintenance will be thoroughly familiar with these.

A11.2. In the event of an emergency in a fuel tank, the attendant will:

A11.2.1. Immediately notify the runner/equipment monitor of the emergency.

A11.2.2. Ensure that the tank has a safe atmosphere before initiating a rescue attempt. Take a lower explosive limit (LEL) and oxygen (O2) reading of the tank or parts per million (PPM), ensuring the tank is safe to enter.

A11.2.3. Ensure that the tank is being continuously ventilated.

A11.2.4. Don an air supplied full-face respirator and prepare another air supplied full-face respirator to be taken into the tank. Wait for the runner/equipment monitor to arrive before attempting rescue.

A11.2.5. Upon reaching the victim, the attendant will place a full-face respirator (set on constant flow) on the victim prior to attempting removal.

A11.2.6. Continue all rescue procedures until the victim is removed, or if determined after discussion with fire department personnel that the victim cannot be removed, that a mechanical extraction through the wing structure is conducted.

A11.2.7. Administer first aid until relieved by the fire department or medical personnel. **NOTE:** No rescue will be attempted from an immediately dangerous to life and health atmosphere. Immediate Danger to Life and Health (IDLH) rescue procedures: If for any reason the tank cannot be ventilated to a safe atmosphere for rescue, the evacuation will be turned over to the Incident Manager (Fire Department). Fuel Systems personnel will assist the Incident Manager as directed. Pneumatic or mechanical nonsparking extraction devices will be used during a rescue from the IDLH condition. If for any reason the ventilation systems are inoperative at the fuel systems repair facility, the ventilation devices located on the fire department's equipment will be used.

A11.3. In the event of an emergency in a fuel tank, the runner/equipment monitor will:

A11.3.1. Immediately activate 9-1-1 and contact the Maintenance Operations Center (MOC) via the emergency phones or an intrinsically safe radio. The following information will be provided: building number, specific tank involved, and the nature of the emergency. Emergency phones are located:

A11.3.1.1. Bldg 1174 Nose Section of Hangar Bay on the Wall: Use the intrinsically safe radio located in the shop dispatch office if emergency phones are inoperable.

A11.3.1.2. Bldg 1164 Dock Office: Use the intrinsically safe radio located in the shop office if emergency phones are inoperable.

A11.3.1.3. Outside Repair Area (aircraft parking spot C-1): Use the hand-held intrinsically safe radio.

A11.3.2. Alert other persons in the repair area of the emergency and report immediately to the tank opening to assist in the rescue.

A11.3.3. Open the hangar doors to the 10-foot mark if they are in the fully closed position or task other personnel in the repair area to open the hangar doors so that the fire department can have unrestricted access to the rescue area.

A11.3.4. Ensure the attendant begins rescue procedures upon arrival at the tank access.

A11.4. During the rescue operation, the runner/equipment monitor will ensure that:

A11.4.1. Continuous ventilation is maintained during the rescue attempt.

A11.4.2. Any equipment that might impede the rescue is removed.

Attachment 12

FUEL SYSTEMS SAFETY BRIEFING

A12.1. All personnel other than fuel systems personnel will be given this briefing prior to entering the fuel systems repair area to perform maintenance or inspection of the aircraft.

A12.2. All personnel will:

A12.2.1. Be advised of the dangers of open fuel tank maintenance by the shift supervisor.

A12.2.2. Remove all spark-producing materials (to include electronic devices, watches, rings, lighters, and keys), and check for nails and tacks in shoes prior to entering the fuel systems repair area.

A12.2.3. Be supplied a canvas bag to carry all required tools into the repair area.

A12.2.4. Be current in CPR and self-aid buddy care and be trained in fuel tank evacuation procedures if they will be a member of the rescue team.

A12.2.5. Have in their possession a certified serviceable respirator (personnel who will be performing maintenance in an open fuel tank). Individuals will be authorized to use the fuel shop's equipment if they're fit checked on 3M 7000 series and or Scott full face respirators currently being used in the fuel shop.

A12.2.6. Be advised of the location of the emergency eyewash and showers.

A12.2.7. Be advised of the locations of the fire extinguishers.

A12.2.8. Be advised of the location of emergency telephones. Use intrinsically safe radios if emergency phones are inoperable.

A12.2.9. Be advised of the location of fire alarms and exits.

A12.2.10. Be supplied all necessary safety equipment.

Attachment 13

ROLES OF THE EVACUATION TEAM AND RESPONDING AGENCIES

A13.1. Role of the attendant (62 MXS/MXMCF):

A13.1.1. Notify the runner/equipment monitor that an emergency exists.

A13.1.2. Ensure that a safe atmosphere is available for entry or rescue by measuring LEL/oxygen level or PPM for adequacy.

A13.1.3. Ensure the tank is being continuously ventilated.

A13.1.4. Inform the Incident Manager (Fire Department) if an IDLH condition exists.

A13.1.5. Attempt rescue when runner/equipment monitor returns to the entrance.

A13.1.6. Keep a constant vigil when there is an entrant in the tank.

A13.1.7. Ensure all entrants are properly trained.

A13.1.8. Give assistance to the fire department during any rescue.

A13.1.9. Render CPR or self-aid buddy care until relieved by either the fire department or medical services.

A13.2. Role of the runner/equipment monitors (62 MXS/MXMCF):

A13.2.1. Have a full understanding of the three-man concept and remain in the area at all times.

A13.2.2. Monitor all operations of fuel systems equipment and ensure proper operation (e.g., not smoking, not leaking, operating and maintaining critical levels).

A13.2.3. Ensure all personnel entering the fuel systems repair area have been briefed and have signed into the fuel systems safety logbook.

A13.2.4. In the event of an emergency evacuation exercise or being alerted by the attendant, call the fire department and MOC on the emergency phone. Use an intrinsically safe radio if emergency phones are inoperable.

A13.2.5. State the nature of the emergency, location, and tank involved.

A13.2.6. Notify all personnel in the area that an emergency exists, open or task personnel to open hangar doors if the hangar doors are in the full-closed position, and report immediately to the emergency location to assist in the rescue.

A13.2.7. Ensure the atmosphere remains safe and that constant ventilation occurs during the rescue attempt.

A13.2.8. Assist in CPR and self-aid buddy care until relieved by the fire department or medical services.

A13.3. Role of the Fire Department (62 CES/CEF):

A13.3.1. Upon receiving the emergency call, the Fire Department will advise medical services of the emergency and maintain radio contact with them.

A13.3.2. Contact Security Forces and request their aid in directing medical personnel to the location.

A13.3.3. Upon arrival, assume control of the rescue or emergency scene.

A13.3.4. Provide CPR and first aid as required.

A13.3.5. Be responsible for a rescue from an IDLH condition by mechanical extraction.

A13.3.6. Be responsible for the removal of an entrant using pneumatic or mechanical devices, if other rescue procedures are not feasible.

A13.4. Role of the Security Forces (62 SFS):

A13.4.1. Control entry into the area.

A13.4.2. Provide direction to the medical service vehicle if needed.

A13.4.3. Contact Air Force Office of Special Investigation (AFOSI) and treat the accident area as a crime scene if determined it was criminal in nature.

A13.5. Role of Ground Safety (62 AW/SEG): Determine the cause of the accident after the emergency is terminated.

A13.6. Role of the Maintenance Operations Center (MOC) (62 MOS/MXOOC):

A13.6.1. Ensure the Fire Department has received the call on the emergency phone.

A13.6.2. Ensure the emergency ground checklist has been initiated.

Attachment 14

SAMPLE AFTO FORM 781A

Figure A14.1. Sample AFTO Form 781A.

FROM	TO	MDS	SERIAL NUMBER	PAGE OF PAGES
20100511		C-17A	08-8192	1

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
M	1327320	20100511				20100511

WUC/REF DESIGNATOR	FAULT CODE	STA CODE	CORRECTIVE ACTION
01030			Aircraft lowered IAW 07JG-10-2; 07-12-01 2 C/B collars and 1 warning tag removed/reset IAW 07-12-01-4

DISCREPANCY

Aircraft on integral jacks for #12 MLG Tire R2

2 C/B collars and 1 warning tag installed IAW

07-12-01-1

~~NOTE: DO NOT RESET/RELEASE PARKING BRAKE~~

CORRECTED BY	EMPLOYEE NO.
B. Gray	80085

DISCOVERED BY (PRINT)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
B. Gray	80085	*W. Munny*	43770

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
	1327321	20100511				

WUC/REF DESIGNATOR	FAULT CODE	STA CODE	CORRECTIVE ACTION
04140			

DISCREPANCY

Aircraft pressurization check required

1 C/B collar installed see Pg 1 Blk 3

CORRECTED BY	EMPLOYEE NO.

DISCOVERED BY (PRINT)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
B. Gray	80085		

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
M	1327321	20100511				20100511

WUC/REF DESIGNATOR	FAULT CODE	STA CODE	CORRECTIVE ACTION
07000			1 C/B collar removed and C/B reset IAW 21-30-02-1

DISCREPANCY

1 C/B collar installed IAW 21-30-02-1

See Pg 1 Blk 2

NOTE: DO NOT RESET

CORRECTED BY	EMPLOYEE NO.

DISCOVERED BY (PRINT)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
B. Gray	80085	*W. Munny*	43770

Attachment 15

DELETED

Attachment 16

DELETED

Attachment 17

SAMPLE AF FORM 1492

Figure A17.1. Sample AF FORM 1492.

WARNING		
DO NOT USE OR OPERATE		
TAG NUMBER 0547117	DATE 20090223	
LOCATION #1 HYD ENGINE PUMP CONT C/B		
CONDITION #1 HYD ENGINE PUMP CONT C/B PULLED		
NOTE: DO NOT RESET		
SEE 781A PAGE _3__ ITEM _2__		
4 OF 4		
SIGNATURE		
TITLE Hydraulics		
PHONE	EXTENSION	
CORRECTIVE ACTION TAKEN		
BY:		
DATE 20090223	TAG NUMBER 0547117	PART B
LOCATION #1 HYD ENGINE PUMP CONT C/B		
CONDITION #1 HYD ENGINE PUMP C/B PULLED		
NOTE: DO NOT RESET		
SEE 781A PAGE _3__ ITEM _2__		

Attachment 18

62D MAINTENANCE GROUP "TKC" CARD

Figure A18.1. 62d Maintenance Group "TKC" Card.

62d MAINTENANCE GROUP "TKC" CARD

INSTRUCTIONS: Honestly answer the questions! Total the points and compare your total with the risk categories.

Personal Factors	Low	Medium	High
How physically prepared are you to perform the job?	Very	Somewhat	Not
	0	2	4
How many consecutive 12-hour shifts have you worked?	< 3	3-6	> 6
	0	2	4
Are you experiencing stress in your personal life (ex: money problems; relationship breakup)?	Low	Medium	High
	0	3	6
Have you PCSd within the last month or will you PCS within the next month?	No		Yes
	0		2

On the Job Factors	Low	Medium	High
Are you qualified and confident in your team's ability to perform the assigned task?	Yes	Somewhat	No
	0	1	2
How would you rate your assigned task?	Routine	Moderate	Complex
	0	1	2
How many hours have you been on duty?	< 10	10 – 12	> 12
	0	2	3
Are you working in inclement weather?	No	Yes	Yes/Severe
	0	1	3
What is your level of job stress? (Problems with supervisors or coworkers; job dissatisfaction)	Low	Medium	High
	0	3	6

Have you reviewed technical data WARNINGS, CAUTIONS, and NOTES?	Go	No-Go
Do you have all the proper tools, equipment, PPE, and technical data required to perform the job?	Go	No-Go
Are your tools and equipment in good working order? (Prior-to-use inspection completed and documented as required)	Go	No-Go
Have you considered additional risk factors not specified here?	Go	No-Go

Overall Assessment Score		
0 – 7 Points	Low	Press on. Mitigate Risk.
8 – 14 Points	Medium	Proceed with caution. Mitigate Risk
> 14 Points	High	MUST discuss risk mitigation with supervisor

NOTE: Use the assessment as a guide to evaluate risk on a scale from low to high. This personal risk assessment should be conducted prior to the start of every job. Your personal assessment does not need to be limited by only the above items. If you have any concerns which may impact the safe completion of your duties, contact your supervisor.

CRITICAL EMPHASIS: Any No-Go response requires immediate notification of supervisor.

Attachment 19

KNOCK IT OFF CARD

Figure A19.1. Knock It Off Card.

MISHAP PREVENTION STEPS

START: SAY "KNOCK IT OFF!"

SAFE: Stop the activity.

STATE: State your concern.
How worried are you?

SOLICIT: Get inputs from everyone.

SOLVE: State your solution
if you have one.

SETTLE: Come to an agreement
Everyone is comfortable with.

Don't Risk It! Use "KNOCK IT OFF!" to alert other team members of potential for incident, injury, or mishap.

MISHAP PREVENTION STEPS

START: SAY "KNOCK IT OFF!"

SAFE: Stop the activity.

STATE: State your concern.
How worried are you?

SOLICIT: Get inputs from everyone.

SOLVE: State your solution
if you have one.

SETTLE: Come to an agreement
Everyone is comfortable with.

Don't Risk It! Use "KNOCK IT OFF!" to alert other team members of potential for incident, injury, or mishap.

Pre-task Briefing

For single or multiple person tasks, answer these questions prior to starting a task:

- What T.O. do I need? Is it current?
- Personnel: Who do I need? Who is doing what? Are they qualified? Do they have required /serviceable PPE?
- What are the tools/test/special/ support equipment that I need? Are they calibrated? Serviceable? Are the inspections current?
- What are the hazards to watch for (Think T.O. Cautions & Warnings)?
- What forms documentation is required before, during, and after?
- What are the current environmental concerns: heat or cold, lighting, wind, weather, indoor/outdoor, etc?
- What are input/concerns of each individual team member?

Pre-task Briefing

For single or multiple person tasks, answer these questions prior to starting a task:

- What T.O. do I need? Is it current?
- Personnel: Who do I need? Who is doing what? Are they qualified? Do they have required /serviceable PPE?
- What are the tools/test/special/ support equipment that I need? Are they calibrated? Serviceable? Are the inspections current?
- What are the hazards to watch for (Think T.O. Cautions & Warnings)?
- What forms documentation is required before, during, and after?
- What are the current environmental concerns: heat or cold, lighting, wind, weather, indoor/outdoor, etc?
- What are input/concerns of each individual team member?

Attachment 20

PARTIALLY EJECTED OR "HUNG" FLARES

Figure A20.1. C-17 MJU-10B partial ejection ("Hung" flare).

Figure A20.2. MJU-7A/B partial ejection ("Hung" flare).

Attachment 21

FLARE CONFIGURATIONS

Table A21.1. Flare Configurations.

CDU INVENTORY DISPLAY - FULL COUNT				
CONFIG	01	02	CH	FL
1 / 7100				72
2 / 7107			60	48
3 / 7150			120	48
4 / 7200	60	60		60
5 / 7207	40	40	60	40
6 / 7250	40	40	120	40
MINIMUM COUNTS PER CONFIGURATION				
CONFIG	01	02	CH	FL
1 / 7100				67
2 / 7107			55	43
3 / 7150			113	43
4 / 7200	55	55		55
5 / 7207	37	37	55	37
6 / 7250	37	37	113	37

Attachment 22

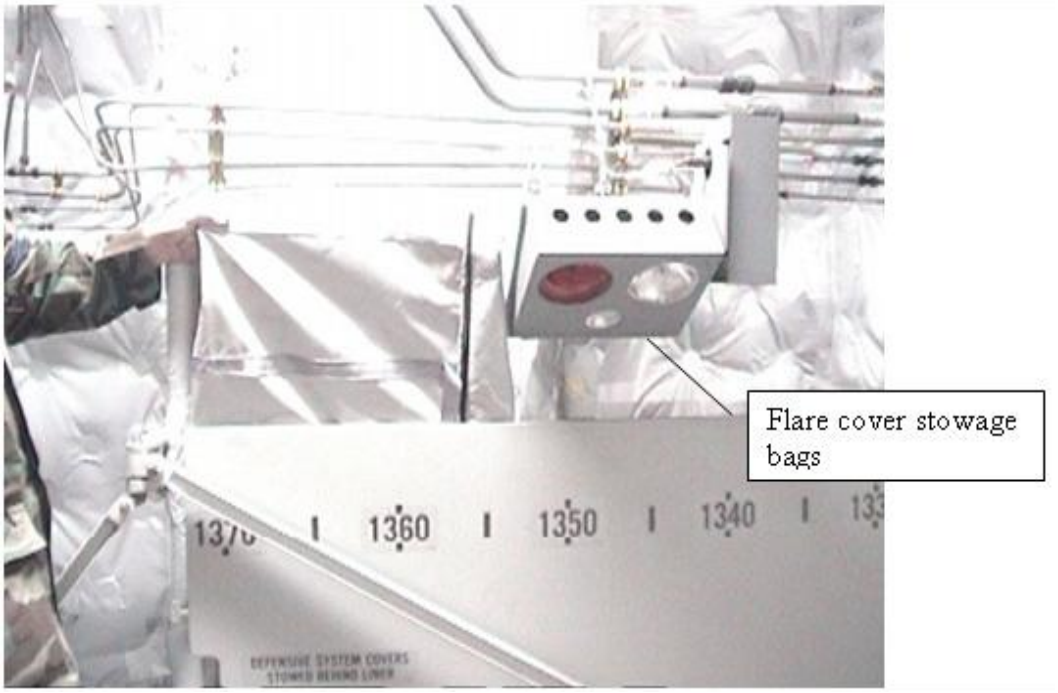
FLARE CONFIGURATION EXAMPLES

Figure A22.1. Flare Configuration Examples.

Attachment 23

DS COVER STORAGE LOCATION

Figure A23.1. DS Cover Storage Location.



Attachment 24

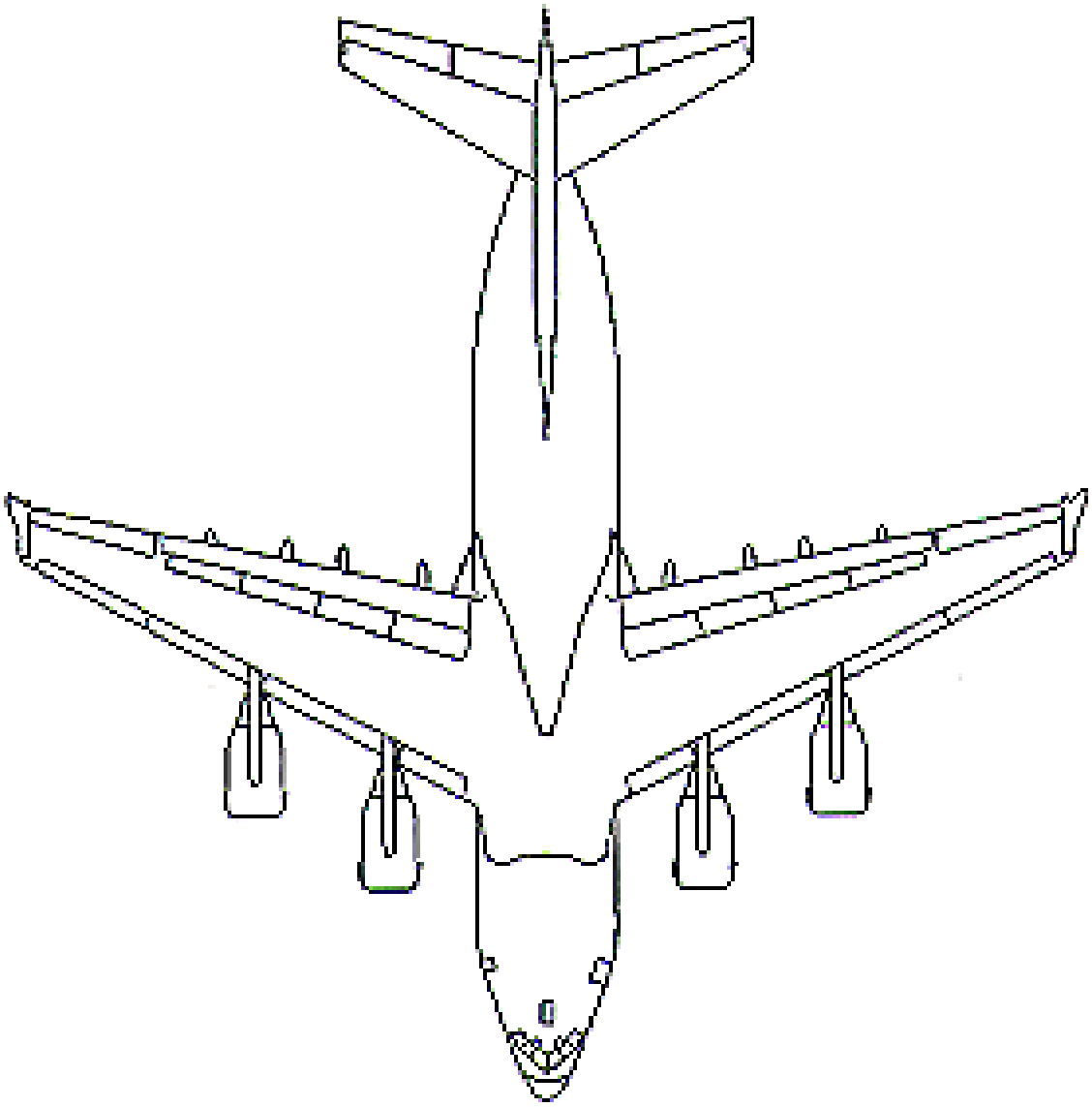
FIRE WARNING PLACARD EXAMPLE

Figure A24.1. Fire Warning Placard Example.

Attachment 25

C-17A PAINT SCORE ZONES

Figure A25.1. C-17A Paint Score Zones.



Attachment 26

SAMPLE MEMORANDUM FOR LOTI

Figure A26.1. Sample Memorandum For LOTI.

MEMORANDUM FOR (Applicable squadrons)

FROM: 62 MXG/CC

SUBJECT: ONE-TIME INSPECTION (OTI) OF LO62(XXX)

1. Background: Brief description of discrepancy to be identified

2. Applicable Equipment:

3. Type: Immediate, Urgent, or Routine

4. Who will accomplish: MXS/AMXS/QA (list performing work center(s) and AFSCs), Boeing RAMS, etc.

5. How work is to be accomplished: (Describe in detail)

6. Record Action: 62 MOS/MXOOS (Plans, Scheduling, and Documentation) section will input the OTI into G081 resulting in AFTO Form 349, Maintenance Data Collection Record and G081 action.

7. Disposition of Results and Reporting: Report all findings, positive or negative, to 62 MXG/QAI at DSN 382-3343 and PS&D for records action at DSN 382-5166. Specify any other offices required to receive copies of the findings and provide the shared file link if a local data collection form is being utilized to collect data not contained in G081 fields.

8. Rescision Date:

9. Grounding Date:

10. Data Code: LO62(9XXX)

11. Personnel required/man-hours spent per unit or Aircraft:

AFSC	SKILL LEVEL	WORK ACCOMPLISHED	MAN-HOURS
2Axxx	(5 or 7)	(describe task)	(provide number)

12. OPR: (OTI Author)

13. Additional Remarks/Guidance:

62 MXG/CC (Signature Block)

Attachment 27

MCCHORD AFB C-17 HOME STATION ACCEPTANCE INSPECTION CHECKLIST FOR ASSIGNED AIRCRAFT

Figure A27.1. Mcchord Afb C-17 Home Station Acceptance Inspection Checklist For Assigned Aircraft.

ALL PURPOSE CHECKLIST	PAGE 1 OF 1 PAGES
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA McChord AFB C-17 Acceptance Inspection Checklist for factory Delivery and Assigned Aircraft Depot Return IAW TO 00-20-1 AMC Sup1	OPR MXOOS
	DATE

NO.	ITEM *(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)*			
1.	Pro Super: Aircraft Acceptance Inspection IAW AMCS 00-20-1 para. 2.21	☐	☐	☐
2.	APG: Ensure BPO/PRE Accomplished IAW AMCS 00-20-1 para. 2.21	☐	☐	☐
3.	A1SAM: Accomplish Acft OBLE inventory utilizing AF IMT 2692 IAW AMCS 00-20-1 para. 2.21 (A) & (B)	☐	☐	☐
4.	LIFES: Ensure life rafts, age limited kits, and survival kit inspections are current and documentation on AFTO Form 781D, AFTO Form 46 and DD Form 1574 coincide IAW AFI 11-301	☐	☐	☐
5.	QA: Verify aircraft weight and balance calculations IAW T.O. 1-1B-50	☐	☐	☐
6.	APG/P&S: Ensure document review is accomplished IAW AMCS 00-20-1 para. 2.21 (D)	☐	☐	☐

AF IMT 2519, 19911101 V5 PREVIOUS EDITIONS ARE OBSOLETE.

Attachment 28

62 AMXS 781 FORMS DOCUMENTATION DISCREPANCY LOG

Figure A28.1. 62 AMXS 781 Forms Documentation Discrepancy Log.

Remove prior to mission departure.

62d AMXS / 781 FORMS DOCUMENTATION DISCREPANCY LOG

TAIL# FORMS DATED 20 TO 20

Annotate documentation errors in the log below. Identify the discrepancy, location and enter your employee #.

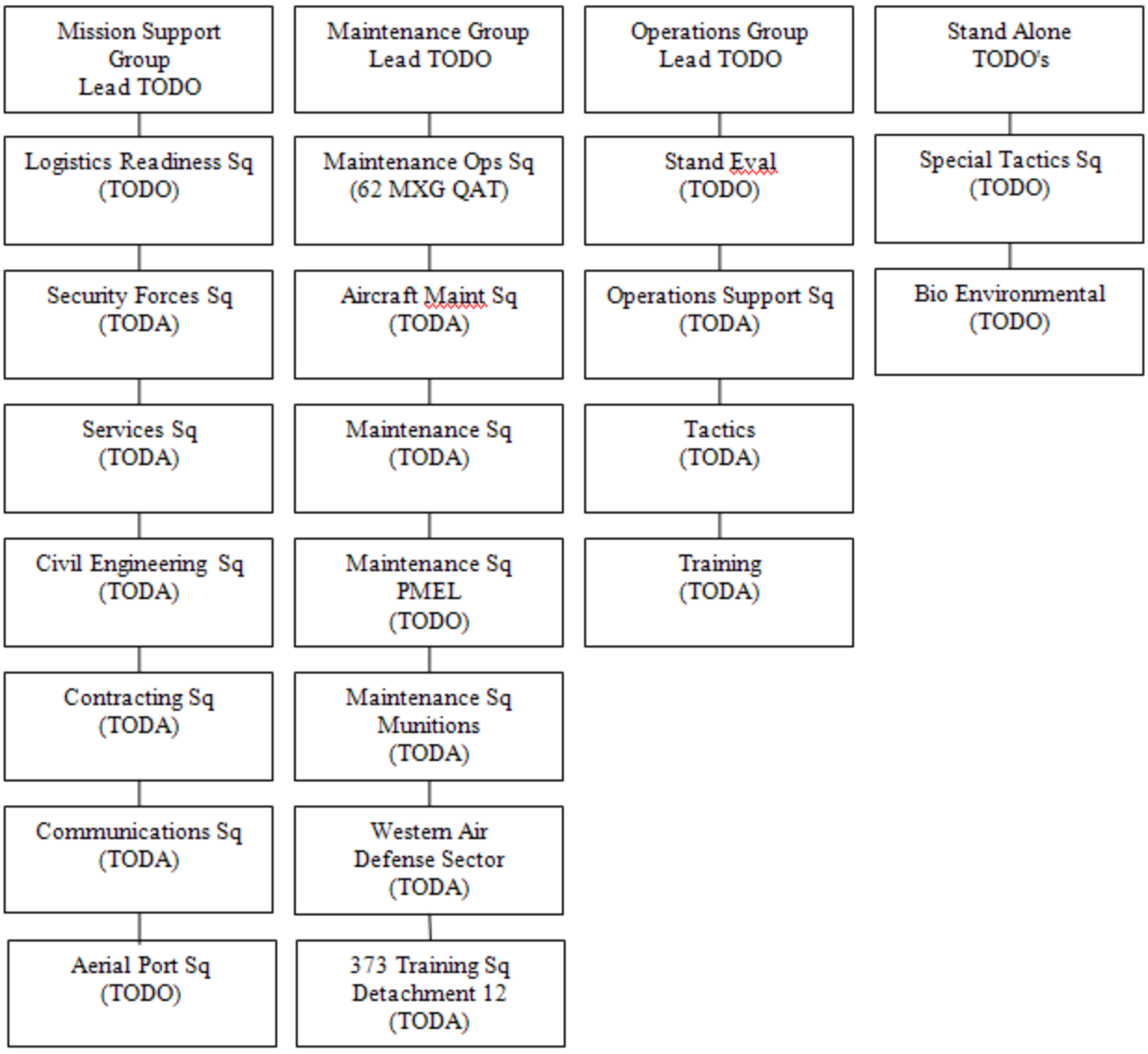
Page	Item	Documentation Discrepancy or Error	Discovered by Empl #

Remove prior to mission departure.

Attachment 29

***GROUP LEAD TODO ORGANIZATIONAL CHART**

Figure A29.1. Group Lead TODO Organizational Chart



Attachment 30

TODA CUSTODIANS AND REQUEST AUTHORIZATION

Figure A30.1. Toda Custodians And Request Authorization.

MEMORANDUM FOR (Group Lead TODO) (Date)

FROM: (Your squadron and office symbol, e.g. 62 MXS/MXMVC)

SUBJECT: Appointment of TODA Custodians and Request Authorization Approval

1. The following individuals are the TODA custodians for account (XXX):

	Primary	Alternate
Rank/Name	(SSgt XXX)	(SSgt XXX)
Building Number and Office	Bldg 1197, Rm 1	Bldg 1197, Rm 1
DSN	XXX-XXXX	XXX-XXXX
Security Clearance	Secret	Secret
Date Completed General TO Course	(Date)	(Date)
Assigned	(Date)	(Date)

AF PORTAL ID:

Official Email Address:

2. The following individuals are authorized to sign a TO request letter for account (XXX), if neither of the custodians are available.

Rank/Name Signature

(Signature Block)
(OIC or Flight Chief)

Attachment 31

CONTINUITY BOOK CONTENTS

Figure A31.1. Continuity Book Contents.

Tab 1 – Appointment Letter and Training Certificate

Tab 2 – Account Inventory Listing (ETIMS Master Listing or a DD Form 2861, Cross Reference Sheet)

Tab 3 – Current Copy of McChord AFB Instruction 21-43, Chapter 12, Technical Order Management

Tab 4 – Self-Inspection Checklist

Tab 5 – Last Annual Inspection Results

Attachment 32

ANNUAL LEP CHECKS

Figure A32.1. Annual LEP Checks.

☐ Step 1: Check the T.O. to see if it has the most current change through the T.O. catalog website: https://www.toindex-s.wpafb.af.mil/

☐ Step 2: Run the T.O. against ETIMS. Ensure the T.O. change matches ETIMS.

☐ Step 3: Perform the LEP check. Make sure each page reflects the change listed on the "List of Effective Pages". Note any discrepancies.

☐ Step 4: Annotation should read as follows: Annual ck c/w (DDMMMYY) (initials)
If required, line out prior annual check annotation.

Example: Revision or Change LEP ck c/w 17 Jul 05 GMF
~~Annual LEP ck c/w 17 Jul 05 GMF~~
Annual LEP ck c/w 17 Jul 06 GMF

☐ Step 5: Document any discrepancies found below the last LEP annotation and inform the T.O. manger or TODO.

Example: Revision or Change LEP ck c/w 17 Jul 05 GMF
~~Annual LEP ck c/w 17 Jul 05 GMF~~
Annual LEP ck c/w 17 Jul 06 GMF
Pg. 2-1 Missing

Attachment 33

POSTING CHANGES

Figure A33.1. Posting Changes.

☐ Step 1: Ensure new changes reflect the new "List of Effective Pages". If needed, note discrepancies.

☐ Step 2: Replace changed pages or insert added pages into T.O. Check for deleted pages and remove from T.O.

☐ Step 3: Annotation should be below the last entry of the LEP and read as follows: Change/REV LEP ck c/w (DDMMMYY) (initials). The "Annual" LEP check date will be carried forward (CF) from the superseded change and read as follows: CF Annual LEP ck c/w (Old Date) (Initial of individual that performed it).

Example: Change/REV LEP ck c/w 17Jul06 JFG
CF Annual LEP ck c/w 17Feb06 GSD

☐ Step 5: Document any discrepancies found while posting the new change and carry forward any discrepancies not corrected by the change below last LEP check annotation.

Example: Change/REV LEP ck c/w 17Jul06 JFG
CF Annual LEP ck c/w 17Feb06 GSD
Pg. 2-1 missing half page

Attachment 34

*SCORING OF TECHNICAL ORDER ASSESSMENTS

Figure A34.1. Scoring Of Technical Order Assessments

MAJOR DISCREPANCIES include, but are not limited to:

- Changes not posted within 5 working days of receipt
- Missing TOs, changes, supplements and messages
- Improperly posted supplements (no annotations)
- Incorrectly annotated supplement references
- Incorrectly posted revision/change (No LEP/Annual LEP C/W, wrong pages replaced, etc.)
- Annual LEP overdue (Book not checked/documented in over a year with discrepancies)
- Pages missing from TO and not properly annotated on LEP
- Pages missing from TO and no replacement effort in progress
- Deleted pages not removed from TO
- ETIMS master listing and TO file contents don't match
- Rescinded or Superseded TOs or supplements on file in active library
- Marred or torn pages that affect readability of TO instructions
- TODA's have not completed training within 90 days of appointment
- Primary and Alternate TODA custodians have not been appointed

MINOR DISCREPANCIES include, but are not limited to:

- Torn or broken binders as long as TO remains intact and is protected
- Marred or torn pages that do not affect readability of TO instructions
- Supplements posted out of order, but properly annotated
- Supplements annotated but posted in the wrong section of the TO
- Supplements not annotated on TO Title page, but annotated within the TO
- Binders un-labeled or incorrectly/incompletely labeled for TO contents
- Binders/TO's filed out of order
- LEP checks not documented correctly
- Pages highlighted
- Errors on LEP not reported to TODO
- TO's not filed in binders
- No charge out system in place
- DD Form 2861, *Cross Reference Sheet*, not being used for TO's filed or stored away from the library including the location of digital media
- Annual LEP overdue (Book not checked /documented in over a year with no discrepancies)

Attachment 35

***FUNCTIONAL CHECK FLIGHT CREW BRIEFING LETTER**

Figure A35.1. Functional Check Flight Crew Briefing Letter

Type Aircraft: _____ Tail Number: _____ Date: _____

1. Check aircraft forms for adequacy of corrective action and dash 6 preflight completed.

2. Check servicing, loading, and flight crew equipment.

3. Verify aircraft weight and balance.

4. Conduct the FCF briefing to include, but not limited to:
   a. Purpose and extent of the FCF.
   b. Previous maintenance discrepancies relative to the FCF.
   c. Review the 781H/781A entry requirements.
   d. Boundaries of the FCF area.
   e. Use of the FCF checklist (1C-17A-6CL-1)
   f. Contents of the FCF book.

5. Accompany the crew to the aircraft.

6. Upon completion of the FCF, meet the crew at the aircraft, check the aircraft forms for appropriate entries (release block signed by the aircraft commander, initials over the appropriate symbols), and check –6CL-1 for completion and signed by the pilot (loadmaster if necessary). Accompany the crew to maintenance debriefing (or debrief vehicle).

7. Reason for FCF.

_____ _____

MAINTENANCE REP SIGNATURE AIRCRAFT COMMANDER SIGNATURE

Note: File this completed letter in the QA FCF file.

Attachment 36

FCF/OCF/IOC/HSTC WORKSHEET

Figure A36.1. FCF/OCF/IOC/HSTC Worksheet.

Worksheet Completion Date: _____

1. OGV Notification: _____ _____
(Time) (YYYYMMDD)

MOC Notification: _____ _____
(Time) (YYYYMMDD)

2. Aircraft Type: _____ Serial Number: _____ Location: _____

3. FCF/OCF/IOC/HSTC required for: _____

4. Job Control Number: _____ Fuel Load: _____

5. Aircrew briefing time: _____ Location: _____

6. AFTO Forms and Maintenance Supervision arrive at pre-brief location 20 minutes prior to crew reporting time. Time Arrived: _____

7. Weather Checked: _____
(Time)

8. FCF crew reporting time: _____
(Normally one hour after notification)

9. Order Chutes: _____ Aircrew Flight Equipment (982-3874) Initiated: _____
(Quantity) (Time)

10. AFTO Forms 781H/A FCF entries: _____
(See samples in 62 AWI 21-30)

11. AFTO Form 781 H/A reviewed:

a. Maintenance Rep: _____
(Signature)

b. Flight Crew: _____
(Signature)

12. FCF kit issued:

a. T.O. 1-1-300

b. T.O. 1C-17A-6CF-1

c. T.O. 1C-17A-6CL-1

d. Briefing Letter

e. DD Form 175 Issued (Military Flight Plan) when flight plan is filed.

13. Pilot Name and Rank: _____

14. Briefing NCO: _____

15. FCF/OCF/HSTC completed: _____. Flying Time: _____. __ Hrs.
(YYYYMMDD)

16. Number of Discrepancies: _____

17. DD Form 175 turned in to debriefer: _____. FCF kit returned to QA representative: _____.

18. AFTO Form 781A/H entries signed off and final entry made in forms.

a. _____ Final entry: "Inspection of aircraft forms and FCF worksheet due completion before flight."

b. _____ Signed off by FCF Pilot. (-6CL-1, 781A/H)

19. Close out JCN in G081 ____ and FCF entered in to Qanttas database.

20. Debriefing NCO: _____ Forms reviewed by: _____
name name

21. Date forms delivered to P.S. & D. _____

Attachment 37

AIRCRAFT FORM 781A SAMPLE

Figure A37.1. Aircraft Form 781A Sample.

FROM	TO	MDS	SERIAL NUMBER	PAGE OF PAGES
20040817		C-17A	98-0051	7

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
-	230C017	20040817		☐	☐	20040817

WUC/REF DESIGNATOR	FAULT CODE	STA CODE
04210		

DISCREPANCY

FCF DUE IAW T.O. 1-1-300 and 1C-17A-6.

SEE JCN 198C016 and 198C018

(REFERENCE APPLICABLE T.O. and ORIGINATING JCN REASON FOR THE FCF/OCF/HSTC)

CORRECTIVE ACTION

FCF COMPLETED and AIRCRAFT RELEASED FOR FLIGHT at 1500 Hrs. (LOCAL TIME) or
FCF COMPLETED and AIRCRAFT NOT RELEASED FOR FLIGHT. SEE JCN 231C001.

(REFERENCE THE JCN FOR THE DISCREPANCY DRIVING THE FCF/OCF/HSTC REQUIREMENT and REASON FOR NON RELEASE. ENTER A NEW DISCREPANCY IN THE 781A FORMS)

CORRECTED BY	EMPLOYEE NO.

DISCOVERED BY (Print)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
J. Doe	00986	A. FLYER (PILOT SIGNATURE)	

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
-	230C018	20040817		☐	☐	20040817

WUC/REF DESIGNATOR	FAULT CODE	STA CODE
03215		

DISCREPANCY

COMBINED PREFLIGHT/POST FLIGHT INSPECTION QUALITY VERIFICATION INSPECTION DUE BEFORE FCF. SEE JCN 198C016

(REFERENCE ORIGINATING JCN REASON FOR FCF/OCF/HSTC)

CORRECTIVE ACTION

QA QUALITY VERIFICATION INSPECTION COMPLETED IAW 1C-17A-6WC-1, SECTION IV.

CORRECTED BY	EMPLOYEE NO.

DISCOVERED BY (Print)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
J. Doe	00986	D. INSPECTOR (SIGNATURE)	01234

SYM	JCN	DATE DISC	DOC NO.	CF 781A	XF 781K	DATE CORRECTED
-	230C019	20040817		☐	☐	20040817

WUC/REF DESIGNATOR	FAULT CODE	STA CODE
07000		

DISCREPANCY

QA INSPECTION OF AIRCRAFT FORMS and FCF WORKSHEET DUE BEFORE NEXT FLIGHT.

CORRECTIVE ACTION

FORMS and FCF WORKSHEET REVIEW COMPLETED IAW AWI 21-30 and T.O. 00-20-1

CORRECTED BY	EMPLOYEE NO.

DISCOVERED BY (Print)	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.
J. Doe	00986	D. INSPECTOR (SIGNATURE)	01234

AFTO FORM 781A, 20020617 (IMT-V1) MAINTENANCE DISCREPANCY AND WORK DOCUMENT

Attachment 38

IMPOUNDMENT/QUARANTINE OFFICIAL CHECKLIST (PAGE 1 OF 2).

Figure A38.1. Impoundment/Quarantine Official Checklist (Page 1 Of 2).

ALL PURPOSE CHECKLIST	PAGE 1 OF 2 PAGES		
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA IMPOUNDMENT OFFICIAL CHECKLIST	OPR MXG/QA	DATE	
NO. ITEM *(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)*		YES	NO	N/A

Review Impoundments IAW 21-101 Chap 9 and MCCHORD AFBI 21-43, Chapter 14

Contact MOC, QA, and Wing Safety to let them know you're the Impoundment Official and receive any information already obtained.

MDS:_____ TAIL NUMBER:_____ START DATE/TIME:_____
BASE:_____ STATE:_____ ZIP CODE:_____ TYPE: (AD/ANG/AFRC):_____

IMPOUNDMENT OFFICIAL
RANK/NAME:_____
UNIT/OFF SYM:_____
PHONE #:_____
EMAIL:_____

RELEASING AUTHORITY
RANK/NAME:_____
UNIT/OFF SYM:_____
PHONE #:_____
EMAIL:_____

WING SAFETY INVESTIGATION? YES/ NO INFORMATION RELEASABLE? YES/ NO

SAFETY POC (NAME/PHONE#):_____
LAST HSC (DATE & #):_____ LAST MX DATE:_____
LAST MX LOCATION:_____
NAME(S) & EMP # OF WHO PERFORMED LAST MX:_____
_____
LAST MX PERFORMED:_____
_____
_____
SORTIE DEPARTURE LOCATION:_____
REASON FOR IMPOUNDMENT:_____
_____
_____
WUC/REFDES:_____ ITEM DESCRIPTION:_____

PART #:_____ TO FIGURE:_____ TO INDEX:_____

COST OF PARTS:_____ MAN HOURS:_____
COST OF LABOR (Contact QA for rates):_____

INVESTIGATION FINDINGS/CORRECTIVE ACTIONS: _____
_____
_____
_____
_____
RECOMMENDATIONS/PREVENTION STRATEGY:_____
_____
_____
_____

For aircraft with actual or suspected animal/pests or biologicial contaminants from soils or organic debris, contact the MOC to run quarantine checklist.

RETURN THIS FORM TO QUALITY ASSURANCE WHEN COMPLETE.

AF IMT 2519, 19911101, V5 PREVIOUS EDITIONS ARE OBSOLETE.

Figure A38.2. Impoundment/Quarantine Official Checklist (Page 2 Of 2).

PAGE 2 OF 2 PAGES

NO.	ITEM *(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)*	YES	NO	N/A
1	Contact MOC to change acft status/lock out G081 and initiate QRC. Secure/Red X forms with impoundment write up and reason for impoundment.	☐	☐	☐
2	Attend debrief with aircrew if possible. Ensure all specialists are present. Retain Aircraft Commander's contact information in case you have further questions. If unable to attend formal debrief, contact crew to obtain thorough information regarding condition. Reach CP for contact info.	☐	☐	☐
3	Collect/route stored or perishable data for analysis (SFDR, QAR, CVR, fluid samples from affected systems, samples from any AGE or equipment used to service the acft, i.e., fuel trucks, lox carts, hyd mules, etc.). Verify through safety that the information is releasable prior to routing.	☐	☐	☐
4	Control access to impounded assets (both acft and equipment). Establish isolation area for acft using cones, ropes, or placards. An ECP can be established, but must have a control log with name, rank, employee number, time/dates of entry and departure, and the reason for entry.	☐	☐	☐
5	When available, review appropriate records for discrepancy history (G081 screen 8070, F8005, applicable training records, acft jacket file). Search 180 days of history.	☐	☐	☐
6	Establish a dedicated repair team. Coordinate with squadrons/flights to obtain necessary technicians for troubleshooting and repair, as well as any required support equipment. This includes Boeing support.	☐	☐	☐
7	Ensure only impoundment related MX actions are performed unless otherwise authorized by the Releasing Authority. This includes cargo offload actions until cleared by bioenvironment or aerospace medicine for physiological events.	☐	☐	☐
8	Ensure no cannibalization actions are taken against the affected asset without spedific authorization of the Releasing Authority.	☐	☐	☐
9	Ensure all required MX is performed IAW applicable tech orders, to include any special inspections (borescope, hard landing, lightning, etc.). Provide direct, personal supervision.	☐	☐	☐
10	Ensure any required MX is properly documented, to include any significant items for the AFTO Form 95 Recommend using a log book	☐	☐	☐
11	Brief Releasing Authority daily on the progress of impoundment related MX.	☐	☐	☐
12	When the corrective action will be removal/replacement of a defective engine, ensure the impoundment is transferred to the affected engine. Attach an AFTO Form 350 to the eengine with the word "Impounded" printed in red in the discrepancy block prior to transporting to Engine Management. Additionally, notify QA, who will sign the impoundment statement.	☐	☐	☐
13	Review the acft forms prior to seeking impoundment release.	☐	☐	☐
14	Report to QA for review of all forms.	☐	☐	☐
15	Report to the Releasing Authority for release from impoundment. Ensure all applicable background data is available.	☐	☐	☐
16	Submit form and data to QA for final review, database input, and routing.	☐	☐	☐
17	Notify MOC of impoundment termination.	☐	☐	☐

AF IMT 2519, 19911101, V5 *(REVERSE)*

Attachment 39

***KIT AND SHADOW BOARD PREFIX LETTERING**

Table A39.1. Kit And Shadow Board Prefix Lettering.

FLIGHT	WWID KIT	SHADOW BOARD
62 MXS		
MAINTENANCE		
MAINTENANCE	MHMX	MHMX
W & T	MHMXTW	MHMX
FABRICATION		
NDI	MHND	
STR MAINT	MHFSM	MHFSM
METALS	MHFMS	MHFMS
AGE		
INSP/REP	MHFA	MHFA
MUNITIONS		
MAINTENANCE	MHMW	MHMW
AVIONICS		
CONVENTIONAL	MHAN	MHAN
ACCESSORIES		
PNEU	MHFP	MHFP
ELEN	MHFE	MHFE
FUELS	MHFF	MHFF
TMDE		

FLIGHT	**WWID KIT**	**SHADOW BOARD**
TMDE	MHAL	MHAL
62 MOS		
QA/Inspectors	MHQA	MHQA
62 AMXS		
Support	MHAM	MHAM
Transient Alert	MHTA	MHTA
62 OSS Life Support	MHLS	N/A
373 DET 12 FTD	MHTD	MHTD

Attachment 40

MATRIX OF CDDAR EQUIPMENT, RESOURCES, AND PERSONNEL CAPABILITIES CDDAR EQUIPMENT

A40.1. CDDAR personnel capabilities: The following will be considered common CDDAR requirements; all other scenarios will be assessed on the spot to determine whether additional support or equipment will be needed. All technical order deviations will be approved prior to implementation.

A40.1.1. Nonconventional aircraft tow from a non-hardened surface onto a taxiway.

A40.1.2. Alternate aircraft nose lifting procedure using airbags will require additional 15-ton airbag sets from March AFB, Charleston AFB, McGuire AFB, or other bases possessing the C-17 asset. Contact AMC A44X, A44XB, or Boeing engineers for assistance in obtaining airbags or deviations to technical data.

A40.1.3. Primary lifting procedures: using jacks.

A40.1.4. Advanced composite fiber containment and clean-up.

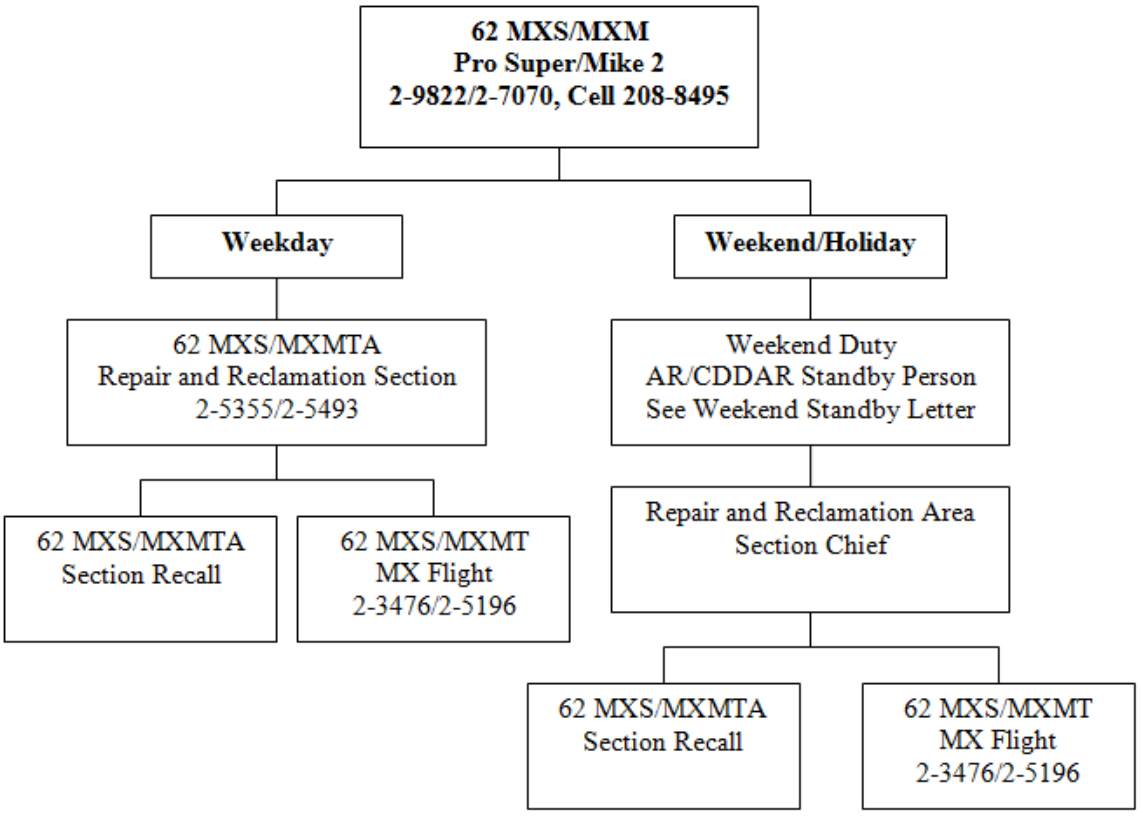
Table A40.1. Equipment and its Use.

Nomenclature	Use	Quantity
Trailer, 53 foot	Transport CDDAR Equipment	1 EA
Trailer, Utility	Transport CDDAR Equipment (First Response)	1 EA
Trailer, Flat Bed	Transport CDDAR Equipment	1 EA
Tow Bridle, C-5/C-17	Tow C-17 by MLG	1 EA
Tow Adapters	Adapt Tow Bridles to C-17A	2 EA
Airbag 26 Ton	Lift Aircraft	8 EA
Airbag 15 Ton	Lift Aircraft	6 EA
Control Console, Airbag	Control/Inflate Airbag	14 EA
Mooring Adapter	Moor C-17 During Airbag Lift	2 EA
Recovery Adapters, Jack	Moor C-17 During Airbag Lift	6 EA
Anchor Guys	Moor C-17 During Airbag Lift	20 EA
Tensiometer	Monitor Tension During Lift	20 EA
HEPA Vacuum	Containment of Composite	1 EA
Sprayer, Handheld	Apply Hold sown Solution to Composites	1 EA
Sprayer, Backpack	Apply Hold sown Solution to Composites	2 EA

Attachment 41

CDDAR TEAM RECALL PROCEDURES

Figure A41.1. CDDAR Team Recall Procedures.



Attachment 42

LOCATIONS OF COMPOSITE COMPONENT

Figure A42.1. Locations Of Composite Component.

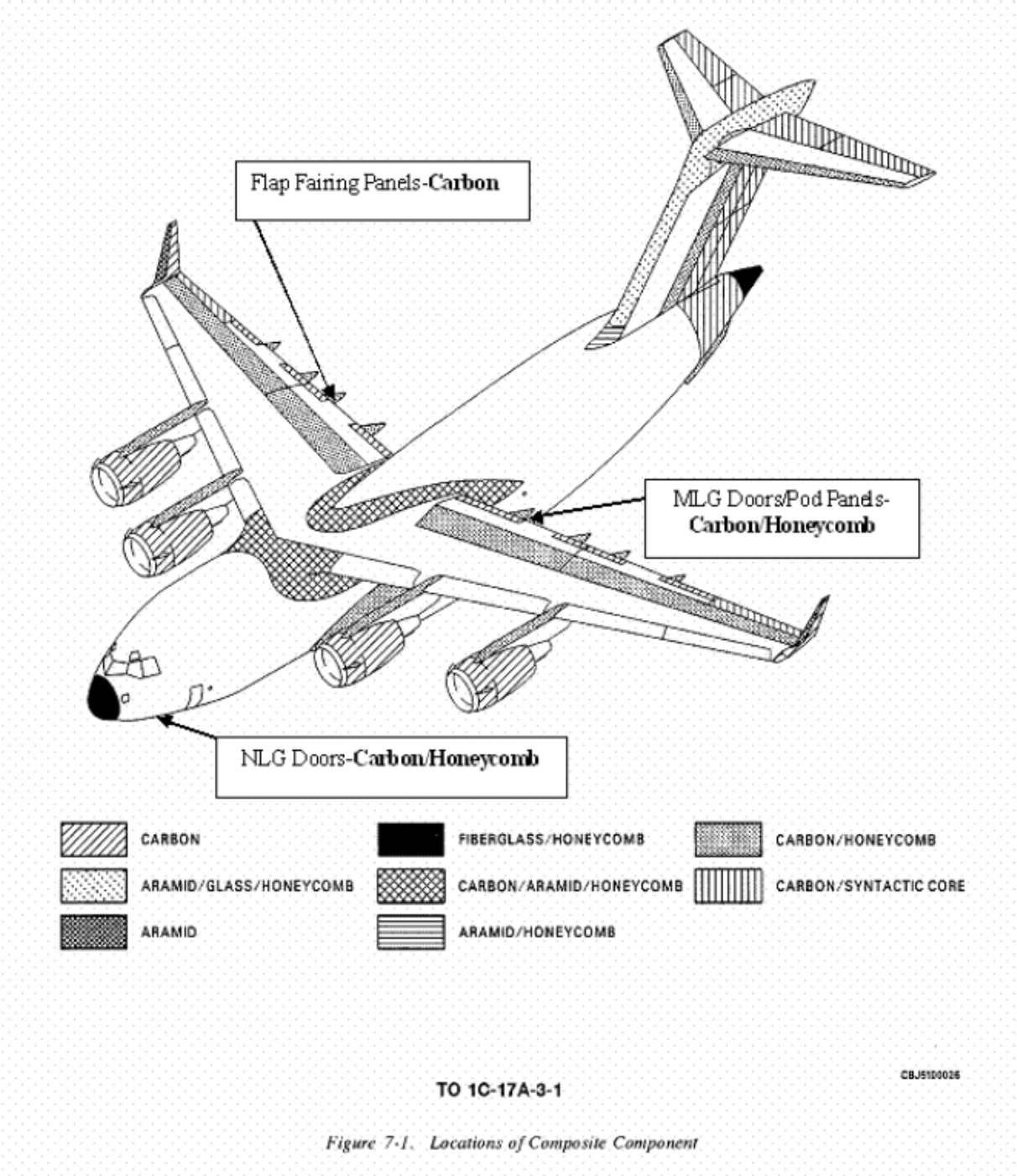


Figure 7-1. Locations of Composite Component

Attachment 43

ADVANCED COMPOSITE MATERIALS PERSONAL PROTECTIVE EQUIPMENT (PPE) GUIDELINES

A43.1. Burning or Smoldering Advanced Composites.

A43.1.1. Self-Contained Breathing Apparatus (SCBA)

A43.1.2. Full protective clothing (NFPA Standards 1971 and 1976)

A43.1.3. Do not use rubber gloves

A43.2. Handling Broken or Splintered Advanced Composites.

A43.2.1. Full-face respirator with dual cartridge (HEPA and organic vapor cartridge)

A43.2.2. Coated, hooded Tyvek suit with booties

A43.2.3. Leather work gloves (outer)

A43.2.4. Disposable or reusable Nitrile gloves (inner)

A43.2.5. Hard-soled work boots (steel toe and shank required)

A43.3. Initial 2,000-Foot Clearance Zone/Cordoned Area.

A43.3.1. Full-face respirator with dual cartridge (HEPA and organic vapor cartridge)

A43.3.2. Coated, hooded Tyvek suit with booties

A43.3.3. Disposable or reusable Nitrile gloves

A43.3.4. Hard-soled work boots (steel toe and shank required)

A43.4. Advanced Composite Materials Mishap Decontamination Equipment.

A43.4.1. Electrically Protected (HEPA) Filtered Vacuum (Site and Personnel Clean-up)

A43.4.2. Portable Eyewash Unit

A43.4.3. Tent or Trailer for Decon, if possible

A43.5. Advanced Composite Materials Containment Equipment.

A43.5.1. Fixant solution (Liquid PAA or Acrylic Floor Wax Solution), see paragraph 22.4.2.

A43.5.2. Soil-tackifiers (i.e., Polychem, J-Tack, Terra Tack)

A43.5.3. Fixant spray equipment (Garden Sprayer or Insecticide Sprayer)

A43.5.4. Plastic sheeting 0.006” thick or greater

A43.5.5. <2” Masking Tape

A43.5.6. 55 gallon drums, and thick (>0.006) plastic bags (Hazardous Waste Disposal)

Attachment 44

SAMPLE LETTER IN LIEU OF ORDERS

Figure A44.1. Sample Letter In Lieu Of Orders.

This form may contain FOR OFFICIAL USE ONLY (FOUO) information that must be protected under the Privacy Act of 1974 (see AFI 33-332). Do not release outside of DoD channels without the consent of the originator's office.

MEMORANDUM FOR 62 APS/TRTP

FROM: XXXXXX

SUBJECT: Authorization for Travel

1. Request the following personnel be provided travel in accordance with the Joint Federal Travel Regulation paragraph U2100.

Name	SSAN	Grade	GTC#	Expiration
Johnny, Doe	xxx-xx-xxxx	MSgt	xxxx-xxxx-xxxx-xxxx	Dec 09

2. The traveler(s) will/will not require hotel accommodation.

3. The traveler(s) will/will not require a rental vehicle.

4. Travel will be from McChord AFB to TDY Location and return to McChord AFB. The fund citation to cover the travel and transportation expenses is: (fund citation that will pay for the commercial travel and any accommodations)

5. POC for travel orders is (OIC or Flight Chief) and can be reached at 2-XXXX.

AUTHORIZING OFFICIAL SIGNATURE
(Sq/CC or Flight OIC Signature Block)

Attachment 45

JOB CONTROL NUMBERS IN NUMERICAL SEQUENCE

Figure A45.1. Job Control Numbers In Numerical Sequence.

JCN SERIES	FUNCTION	SQUADRON
0001 – 0099	Used to Identify the Crew Chief, Assistant Crew Chief, and Base of Assignment	62 AMXS
0100 – 0299	Used for Notes Placing the Aircraft on Certain Restrictions	62 AMXS
0300 – 0599	Used for System Test Program, i.e. “Test Equipment Installed”	62 AMXS
0600 – 0999	Used for Informational Notes	62 AMXS
1000 – 1200	Aircraft Debriefing (Pilot Reported Discrepancies)	62 AMXS
1201 – 1299	Boeing Engine Support Equipment; Unscheduled Maintenance	Boeing
1300 – 1350	Boeing Engine Support Equipment; Scheduled Inspection	Boeing
1351 – 1450	(Future Use)	
1451 – 1525	(Future Use)	
1526 – 1599	Engine Management Branch	62 MXS
1600 – 1699	Time Changes, -6 Items	62 MOS
1700 – 1900	Backline Maintenance	62 MXS
1901 – 1921	Local Manufacture	62 MXS
1922 – 2460	(Future Use)	
2461 – 2500	Electronic Warfare Systems (EWS)	62 MXS
2501 – 2600	(Future Use)	
2601 – 2625	Fuel Cell Repair (Aircraft)	62 MXS

2626 – 2999	(Future Use)	
3000	Weight & Balance Prep	62 MXG
3001 – 3100	HSC only Preps	62 MXS
3101 – 3200	Refurb only Preps	62 MXS
3201 – 3299	HSC/Refurb Preps (Preps appl. to both)	62 MXS
3300 – 3399	Aircraft and Equipment Wash and Wash Preps	62 AW
3400 – 3499	(Future Use)	
3500 – 3600	TDY Maintenance	62 AMXS
3601 – 3700	Avionics Intermediate Section (AIS)	62 MXS
3701 – 3750	(Future Use)	
3751 – 3770	Fab Branch Equipment Maintenance	62 MXS

JOB CONTROL NUMBERS IN NUMERICAL SEQUENCE

JCN SERIES	FUNCTION	UNIT
3771 – 3815	(Future Use)	
3816 – 3855	Fuel Cell Repair Shop Equip Maintenance	62 MXS
3856 – 3875	Electro/Environmental Repair Shop	62 MXS
3876 – 3900	Pneudraulic Shop Equip Maintenance	62 MXS
3901 – 3920	(Future Use)	
3921 – 3935	Maintenance Support (HSC CTK)	62 MXS

3936 – 3980	Aircraft Metals Technology	62 MXS
3981 – 4020	Non-destructive Inspection Equip	62 MXS
4021 – 4250	(Future Use)	
4251 – 4300	(Future Use)	
4301 – 4800	Engine Management Branch	62 MOS
4801 – 4825	AGE Servicing	62 MXS
4826 – 4900	AGE Inspection/Repair	62 MXS
4901 – 4950	Sheet Metal/Corrosion Control Shop	62 MXS
4951 – 5000	(Future Use)	
5001 – 5050	QA Found Discrepancies	62 MXG
5051 – 5199	(Future Use)	
5200 – 5275	CANN Jobs, McChord Assigned Aircraft	62 MOS
5276 – 5299	CANN Transient	62 MOS
5300 – 5325	Off Shore Support	62 MOS
5326 – 5330	Impoundment JCN. Use one JCN per impoundment per tail	62 MOS
5331 – 5349	Aircrew Flight Equipment, Flight Operations	62 OSS
5350 – 5399	Reserved for G081	
5400 – 5449	MOC C-17 Redball Maintenance (Silver)	62 AMXS
5450 – 5499	MOC C-17 Redball Maintenance (Blue)	62 AMXS
5500 – 5564	Aircraft Jacking Packages	62 AMXS/MXS

5565 – 5599	Aircrew Flight Equipment, Flight Operations	62 OSS
5600 – 5644	Engine to Engine CANN	62 MXS

JOB CONTROL NUMBERS IN NUMERICAL SEQUENCE

JCN SERIES	FUNCTION	UNIT
5645 – 5655	(Future Use)	
5656 – 5699	Munitions Flight	62 MXS
5700 – 5744	Wheel and Tire Shop Equip Maint	62 MXS
5745 – 5799	Aero Repair	62 MXS
5800 – 5899	(Future Use)	
5900 – 5999	Thruflight	62 AMXS
6000	Functional Check of Items (Offshore)	Miscellaneous
6001 – 6200	(Future Use)	
6201 – 6250	62 AW C-17 Rodeo Team	62 AW
6251 – 6300	446 AW C-17 Rodeo Team	446 AW
6301 – 6499	(Future Use)	
6500	Refurb Compliance	62 MXS
6501 – 6566	Refurb Look Phase	62 MXS
6567 – 6899	Refurb Fix Phase	62 MXS

6900 – 6950	Transfer/Depot Preps	62 AW
6951 – 7000	Mission Preps	62 AMXS
7001 – 7099	SAAM/Banner Prep	62 AMXS
7100 – 7149	Deep Freeze Prep	62 AMXS
7150 – 7199	Acceptance Inspections	62 AMXS
7200 – 7299	Basic Preflight/Postflight	62 AMXS
7300 – 7400	Silver Unscheduled Maint	62 AW
7401 – 7600	Blue Unscheduled Maint	62 AW
7601 – 7650	C-17 -21 Section	62 AMXS
7651 – 7660	JOAP Samples	62 AMXS/MXS
7661 – 7694	Transient Alert	62 AW
7695 – 7700	FCF/OCF/Test Flight	62 MOS
7701 – 7749	RAMS/Depot Work Orders	Miscellaneous
7750 – 7850	Pre/Post HSC Unscheduled Maintenance	62 MXS

JOB CONTROL NUMBERS IN NUMERICAL SEQUENCE

JCN SERIES	FUNCTION	UNIT
7851 – 7864	Aircraft Brake Change Package	62 AMXS/MXS
7865 – 8099	Misc Maint Packages	62 AMXS/MXS
8100 – 8199	ADITS Jobs (C-17 Only)	62 AW

8200 – 8400	(Future Use)	
8401 – 8600	Fuel Cell (In-Tank Maint Packages)	62 MXS
8601 – 8799	Off-Station Write-ups, C-17	62 AMXS
8800 – 8899	373 TRS/DET 12	373 TRS
8900 – 8999	TACC Assigned JCNs via GDSS2	HHQ
9000 – 9050	Engine Component TCTO	62 MXS
9051 – 9499	Component TCTO	62 MOS
9500 – 9699	TCTOs and Local OTIs	62 MOS
9700 – 9799	(Reserved for C-5 MADAR Jobs)	n/a
9800 – 9999	TCTOs and Local OTIs	62 MOS
A100 – A250	(Future Use)	
A251 – A950	(Future Use)	
A951 – A999	reserved for ISO inspections IAW 00-20-2	
B001 - D999	reserved for ISO inspections IAW 00-20-2	
E001 – E300	120 Day HSC #1/Look, C-17	62 MXS
E301 – E700	120 Day HSC #1/Fix, C-17	62 MXS
E700 – E999	120 Day HSC #1/Paperless Package	62 MXS
F001 – F300	120 Day HSC #2 Look, C-17	62 MXS
F301 – F700	120 Day HSC #2 Fix, C-17	62 MXS

F700 – F999	120 Day HSC #2/Paperless Package	62 MXS
G001 – G300	120 Day HSC #3 Look, C-17	62 MXS
G301 – G700	120 Day HSC #3 Fix, C-17	62 MXS
G700 – G999	120 Day HSC #3/Paperless Package	62 MXS
H001 – H300	120 Day HSC #4 Look, C-17	62 MXS
H301 – H700	120 Day HSC #4 Fix, C-17	62 MXS
H700 – H999	120 Day HSC #4/Paperless Package	62 MXS

JOB CONTROL NUMBERS IN NUMERICAL SEQUENCE

JCN SERIES	FUNCTION	UNIT
I001 – I999	not authorized	
J001 – J300	120 Day HSC #5 Look, C-17	62 MXS
J301 – J700	120 Day HSC #5 Fix, C-17	62 MXS
J700 – J999	120 Day HSC #5/Paperless Package	62 MXS
K001 – K300	120 Day HSC #6 Look, C-17	62 MXS
K301 – K700	120 Day HSC #6 Fix, C-17	62 MXS
K700 – K999	120 Day HSC #6/Paperless Package	62 MXS
L001 – N999	reserved for Phase inspections IAW 00-20-2	
O001 – O999	not authorized	
P001 – Z999	reserved for Phase inspections IAW 00-20-2	

Attachment 46

DEBRIEF CHECKLIST

***NOTE*:** AFI21-101 AMCSUP CL3, *C-17 Debriefing Checklist* will be used in conjunction with this Debrief Checklist.

***NOTE*:** All Debrief personnel will be familiar with the following instructions: AFI 21-101; AFI 21-103; MAFBI 21-43, Chapters 14, 28, and 29; and C-17 Mission Essential Subsystems List.

***NOTE*:** Local turns that call in A-1 or A-2 do not require debriefing, however, the debrief personnel must keep in contact with MOC and/or Pro Super & Expediters in case the status changes when the aircraft blocks in. If the aircraft calls in A-3, then proceed with the following steps in this checklist.

A46.1. PRE-DEBRIEF

A46.1.1. Obtain aircraft landing code/status and inbound time from MOC.

A46.1.2. Coordinate specialists as required with Pro Super/Expediter. Also, find out what type of inspection is required to be put in the forms binder.

A46.2. DEBRIEFING THE FLIGHT CREW

A46.2.1. Gather all information needed about the flight and the discrepancies on the Debrief Log.

A46.2.2. Ensure the white and silver fuel cards are in the forms binder. If missing, inform the Pro-Super, annotate the discrepancy in the forms, and assign a JCN using G081.

A46.2.3. Remove AF Form 664, **Aircraft Fuels/Ground Servicing Documentation Log**, ensure all fuel receipts are accounted for and the appropriate crew member has filled out the forms properly, to include: aircraft tail number, aircraft MDS, day/month/year, refueling date, International Civil Aviation Organization (ICAO) codes, squadron, airfield name, tanker tail number, and amount of fuel.

A46.2.4. Fax all compressor stalls, bird strikes, and dropped objects worksheets to MOC and QA. If fax is unavailable, these forms need to be hand delivered.

A46.2.5. Remove AFTO Form 781 from forms binder. Ensure forms are properly completed to include blocks 1 through 20 and block 39 of the AFTO Form 781 per TO 00-20-1.

A46.2.6. MISSION **RETURN ONLY:** Ask the aircrews if there were any AFTO 781A forms transcribed out in the system. If so, ensure they are present at debrief.

A46.2.7. Debrief will ensure the aircrew has both Aircraft Diagnostic and Integrated Test System (ADITS) disks when the aircraft forms arrive at debrief.

A46.2.8. Ensure aircraft commander has signed the "Pilot Signature" in block 7 of the Flight Condition Data on the AFTO Form 781H.

A46.2.9. Review the aircraft AFTO form 781A discrepancies thoroughly with the flight crew using AFI21-101 AMCSUP CL3, Debriefing Check sheet for C-17A aircraft, and

the TO 1C-17A-2-00FR-00-1 to ensure the fault codes are accurate. Once finished, assign JCNs to the discrepancies.

***NOTE*:** At this point, debrief personnel may release the flight crew.

***NOTE*:** For mission returns, go through all of the offshore discrepancies to make sure that they are loaded in G081.

A46.3. POST-DEBRIEF

A46.3.1. Review last 5 sorties for repeat/recur discrepancies utilizing AMC IMT 278s or automated debrief sortie recaps and mark as appropriate.

A46.3.2. Load all discrepancies into G081, mark zone 99 for A-3 discrepancies.

A46.3.3. Put the appropriate inspection package in the forms binder and assign JCNs. Also, load the inspection into G081 using the 9050 screen for thru-flights or the 9001 screen for basic post-flight/preflight (BPO/PR).

A46.3.4. Load ADITS disks into G081

A46.3.5. Return forms binder to aircraft.

A46.3.6. Generate a new AMC IMT 278 (PRD) and file on the L Drive in appropriate location. Maintain these records for as long as prescribed in applicable guidance.

A46.3.7. Load all offshore/local sortie discrepancies into G081.

A46.3.8. Load AFTO 781 into G081 and ensure debrief initials are in the maintenance review block 37.

NOTE: If GO81 is offline, make 2 copies of the AFTO 781As and provide one copy to the MOC.

Attachment 47

MXG DOCUMENT REVIEW CHECKLIST

Table A47.1. MXG Document Review Checklist.

STEP #	ORG	ACTIONS	Completion Time Due	Time Complied With	Name/Empl.#
1	MXG	Verify 60-Day document review for next day.	1300	[redacted]	
2	PS&D	Initiate P&S checklist. Post addressable issues to AMXS on P&S Tab.	1600	1630	
3	AMXS	Pro Super assigns document review to supervisor & maintainer.	1600	1630	
4	AMXS	Maintainer performs document review IAW AMXS document review checklist. Post supply correction requests on the AMXS Tab.	2000		
5	LRS	Comply with LRS document review checklist. Answer correction requests in AMXS Tab.	2300	1955	
6	AMXS	Address P&S and LRS issues in the Tabs then transcribe forms.	0700		
7	P&S	Follow up and verify 781J. Complete P&S checklist. File completed copy of document review in A/C jacket file.	0900		
8	MXG	Verify 60-Day document review timeline accomplished.	1300	[redacted]	
Contact Numbers:					
P&S: 2-9942 or 2-5166					
LRS: 2-7300 or 2-7299					
Silver 3: 2-6066					

Blue 3: 2-6916
NOTE: Contact PS&D for any changes/corrections to this checklist.

Attachment 48

PS&D DOCUMENT REVIEW CHECKLIST

Table A48.1. PS&D Document Review Checklist.

NO.	DOCUMENT REVIEW CHECKLIST AIRCRAFT # _____	INITIALS
1	Run screen 9032a, 9035g, 8040, 8044, & 9188 IAW AFI 21-101, paragraph 7.10.	
2	Review 781As for jobs w/ "broken, missing, worn, inop, damaged, requires replace" & ensure parts are on order.	
3	If parts are not on order, circle and mark it "Order Parts".	
4	If there are jobs in the 781A with parts on order and in backorder status, mark "transfer to 781K".	
5	Review 781K for job with parts in TNB and mark "Need New Defer Reason".	
6	Ensure all jobs in 781K that requires parts have parts on order. If parts are required, mark "Order Parts".	
7	Ensure all non-TCTO and TCI jobs have a good defer reason, "Awaiting Downtime, Hold for HSC or GRIP, Hold for CCF, Awaiting Parts with Document number or Awaiting ???."	
8	Inspect 781D for overdue TCIs. Validate CAD/PAD lot numbers and note Life Sustaining TCI due date. Follow up on any concerns until resolved. Use time change chart in 00-20-1 Table 6 and applicable -6 for guidance.	
9	Use screen 8040 and TCTO spreadsheet to ensure all aircraft TCTOs have good ground dates and are scheduled for completion prior to the grounding date. (Ensure to notify TCTO monitor of any concerns)	
10	Enter all 781A/K inquiries from the printed 9032g into share point. Ensure to include standard inquiries: "Ensure all jobs in 781A/K forms binder are entered in G081" & "Please record aircraft times from 781J for verification".	
11	The following day, ensure to check the status of each inquiry entered in share point, follow up on any P&S concerns in AMXS tab and ensure the documents review is signed off in G081.	
12	Verify that aircraft times entered from aircraft forms binder match printed 781J. Research any errors if necessary then email the engine time and cycles to EMB for verification in CEMS.	

Attachment 49

AMXS DOCUMENT REVIEW CHECKLIST

Table A49.1. AMXS Document Review Checklist.

Maintainer Name/Employee #:			
Aircraft Tail #:			
Date/Time:			
Step	TASK	Empl. #	Time
1	Open the 60-Day Document Review Checklist from the share point https://62mxg.mcchord.af.mil/default.aspx		
1a	On Step 3 of the 60-Day document review checklist annotate who assigned you the task and the time the task was assigned.		
1b	Look in P&S Tab on 60-Day document review checklist and note any concerns listed form P&S for corrections.		
2	Print G081 screens 8035 and 8044 for associated airframe.		
3	Match each discrepancy with the printed aircraft forms binder with the newly printed 8035 and 8044 screens.		
4	Enter discrepancies into G081 for each job entered into the aircraft forms binder that is not loaded within G081.		
4a	Verify open jobs have correct shop codes, REFDES, symbols, JCN, proper discrepancy description, and deferment reason.		
4b	Verify if any parts need to be ordered or if extended downtime is required.		
5	Verify all jobs that are within 781K have valid document numbers against each discrepancy.		
5a	Order all necessary parts against unresolved discrepancies.		
5b	Ensure all discrepancies with parts in TNB without additional parts on backorder are placed within the 781As if capable of working without extended downtime.		
5c	Indicate within remarks section of 781K reason for deferment, i.e., parts, hold for (shop assist), downtime, etc. (9050 screen)		
6	Open the Document Review Checklist from the share point and "sign" step 4. After signing, closes share point.		
7	Notify LRS of any unnecessary or duplicate parts that can be cancelled or removed from TNB on the AMXS tab of the Document Review		
7a	Call LRS (Supply) at 2-7300 to initiate LRS checklist.		

Step	TASK	Empl. #	Time
8	Make necessary corrections in G081 and aircraft forms.		
9	Print new aircraft forms for associated aircraft after call back from LRS (Supply).		
9a	Perform forms transcription on associated aircraft.		
10	Perform final review to ensure all P&S concerns are appropriately answered.		
11	Open the Document Review Checklist from the share point and “sign” step 6.		
12	Sign off and closed document review JCN.		

Attachment 50

***LRS DOCUMENT REVIEW CHECKLIST**

Table A50.1. LRS Document Review Checklist.

62d LRS Package – 60 Day Document Review Checklist	**Tail #:**
Date:	
Time:	
Called in By:	**Initials/Time**
1. When you receive a call from AMXS for a 60 Day Document Review or forms validation, they will give you the tail number. Run and print out the 8044 in G081 and Screen #416 in SBSS and review AMXS tab on share point 60 Day Document Review Checklist and make corrections.	
2. Verify each document number in the 8044 is still loaded on the 416 and there are no additional items on each. Research the things that are different.	
3. Any disagreements must be validated with the requestor of forms validation.	
4. Physically check TNB for every part identified on 8044. Post problems/discrepancies on LRS Spreadsheet on the share point 60 Day Document Review Tab.	
5. Contact maintainer by 2300 for completion of checklist and update Step 5 on share point spreadsheet. **Maintainer Contacted**: **Time**:	
6. After notifying AMXS, give this checklist to LRS/APS supervisor for filing.	

Attachment 51

MXG DOCUMENT REVIEW NAVIGATION

Figure A51.1. MXG Document Review Navigation.

NOTE: The Document Review process will begin the day before the 60-Day document review is scheduled on the Weekly Maintenance Page or the day before the scheduled Mid-Cycle wash.

NOTE: The 60-Day document review will start with PS&D @ 1400 and end with PS&D @ 1600 hours the following day.

NOTE: Phone numbers for each agency are located at the bottom of the MXG Document Review Checklist. Call the agency that follows your organization on the MXG Document Review Checklist if you experience any complications that prevent you from meeting your suspense as well as inform the agency of what time you expect to be done.

1. Open the MXG Checklist

2. Select the link to your organization's checklists.

3. Complete each step of your organization's checklist.

4. Enter employee # and time of completion for each step. (Select screen links for examples of how to run the screens.)

5. Return to the MXG Checklist and select the tab at the bottom for your work center to enter aircraft any actions required for another agency. (For instance if you are PS&D, select the PS&D tab to enter any questions or concerns on the spreadsheet for AMXS or LRS to address and resolve.)

6. Select the other work center tabs to check for any concerns for your work center to resolve. Follow up on each action item until all are resolved and note resolutions in the comment section of the spreadsheet.

7. Implement the checklist by NLT the suspense given.

8. Enter time of completion, your name, and employee number on the MXG Document Review Checklist.

Attachment 52

MAINTENANCE GROUP (ALPHA/BRAVO/CHARLIE/DELTA NETS)

Table A52.1. Maintenance Group (Alpha/Bravo/Charlie/Delta Nets).

SUPERVISION	QUALITY ASSURANCE	
Maintenance 1: 62 MXG/CC	QA-1: Director	QA-6: Inspectors
Maintenance 2: 62 MXG/CD	QA-Chief: Chief	QA-7: Inspectors
Maintenance 3: 62 MXG/CEM	QA-2: Superintendent	QA-8: Inspectors
Maintenance 4: MXG Duty Officer	QA-3: Chief Inspector	QA-Base Station: QA Base
Maintenance 5: MXG Control Center	QA-4: Inspectors	
Maintenance 6: MXG Control Center Runner	QA-5: Inspectors	

Table A52.2. Maintenance Squadron (Alpha Net).

MIKE 1: Commander	MIKE 11: Electro-Environmental Section
MIKE Super: Maintenance Operations Officer	MIKE 12: Pneudraulics Section
MIKE Chief: Superintendent	MIKE 13: Fuels Systems Section
MIKE 2 Base: Lead Production Supervisor	MIKE 14: AGE Flight
MIKE 2: On-duty Production Supervisor	MIKE 15: NDI Section
MIKE 3: HSC Section	MIKE 16: Structural Repair Section
MIKE 4: HSC Aircraft Team Dispatched	MIKE 18: Munitions Flight See Note 1
MIKE 5: Aero Repair Section	MIKE 19: TMDE Flight
MIKE 6: Wheel & Tire Section	FAB 1: Fabrication Flight
MIKE 7: Propulsion Flight	FAB 2: Fabrication Production Supervisor
MIKE 8: Maintenance Flight Bench Stock	POL: POL LOX cart dispatch
MIKE 10: Metals Technology Section	

NOTE: [TEST NOTE no emphasis][no w:p]

Table A52.3. Maintenance Operations Squadron (Bravo Net).

Training	Hazardous Waste Management
QTP: Base Station Training Flight Office	Environmental Lead: Base Station
QTP 1: C-17 MQTP	Environmental 1: Mobile Unit
FTD: FTD-1, 2	

Table A52.4. Aircraft Maintenance Squadron.

SUPERVISION (BRAVO NET)	BLUE AMU (BRAVO NET)
SABER 1: Commander	BLUE 1: OIC
SABER 2: Maintenance Operations Officer	BLUE 2: Chief
SABER DO: Flight Line Duty Officer	BLUE 3: Pro Super
SABER Chief: Maintenance Superintendent	BLUE 4: Flight line Expeditor
SABER 3: Line Chief	BLUE 5: Specialist Expeditor
SABER 7: AMXS Mobility	BLUE 10: Base Station/DIFM
	BLUE 11: Reserve
	BLUE LEAD: Lead Pro Super
SAAM PREP TEAM (CHARLIE NET)	SILVER AMU (DELTA NET)
SABER 4: SAAM SMR	SILVER 1: OIC
SABER 5: SAAM Primary	SILVER 2: Chief
SABER 6: SAAM Backup	SILVER 3: Pro Super
	SILVER 4: Flight Line Expeditor
	SILVER 5: Specialist Expeditor
	SILVER 10: Base Station/DIFM
	SILVER 11: Reserve
	SILVER LEAD: Lead Pro Super

SILVER AMU (DELTA NET)	TRANSIENT ALERT (ALPHA NET)
SILVER 1: OIC	GOLF: Base Station
SILVER 2: Chief	GOLF 5: T/A Vehicle
SILVER 3: Pro Super	GOLF 6: T/A Vehicle
SILVER 4: Flight Line Expeditor	GOLF 7: T/A Vehicle
SILVER 5: Specialist Expeditor	
SILVER 10: Base Station/DIFM	
SILVER 11: Reserve	
SILVER LEAD: Lead Pro Super	
SUPPORT FLIGHT (ALPHA NET)	
BLACKJACK 1: Flight OIC	BLACKJACK 4: -21 Flight Line
BLACKJACK 2: Flight NCOIC	BLACKJACK 5: CTK
BLACKJACK 3: -21 Flight Line	BLACKJACK 6: Debrief
62D OPERATIONS SUPPORT SQUADRON (BRAVO MAINTENANCE NET)	
MUSTANG: Life Support	

Attachment 53

*LOCAL MANUFACTURE CHECKSHEET

Figure A53.1. Form Used for MICAP Only.

Items required for MICAP Local Manufacture request:

A. T.O. Specifications or appropriate approval documentation (photocopy page from T.O.)

B. Drawings/Prints and or Sample (if MFG shop requires)

Requestor Information:

Requestor/Man#_____ ORG/Shop_____ PH_____
Date/Time_____

Nomenclature_____ Part Number_____ Quantity _____ SMR code_____

Technical Order, Fig/Index_____ REFDES _____

Aircraft_____ JCN_____ Sample Available YES or NO_____

MICAP Approving Official/Man#_____

Local Manufacture Approval/ Disapproval: Attach Comments as Required

MANUFACTURE COORDINATION	SECTION CHIEF/DESIGNEE SIGNATURE	PARTS +	MANUFACTURER ORG/SHOP	MANUFACTURER PHONE
AIRCRAFT STRUCT (SMCO)				982-5375
METALS TECH (MTECH)				982-2301
AIRCREW FLIGHT EQUIP (SURV)				982-2369
ELECTRO ENVIRO (ELEN)				982-6999

Material required? Yes / No

NSN	PART NUMBER	QTY/UI	DOCUMENT NUMBER	COST

Hand carry to Aircraft Parts Store (Bldg 1180):

Signature of LRS/APS recipient: _____

Attachment 54

*E-TOOL 90-DAY INSPECTION AND CLEANING REQUIREMENTS

Figure A54.1. E-Tool 90-Day Inspection and Cleaning Requirements.

These inspection and cleaning requirements are intended to help maximize the service life of the equipment as well as provide resolution to common issues that may be encountered.

1. **E-Tool Case:** Inspect for broken, loose or missing parts, fasteners, screws, cracks and damage.

2. **Port/dust covers:** Inspect for broken, loose, cracked or missing covers.

3. **Keyboard:** Inspect for broken or missing keys. If installed inspect keyboard cover for cracks, damage, and serviceability.

4. **Carrying Handle:** Inspect for broken, loose or missing parts, fasteners, screws, cracks, damage and serviceability.

5. **Screen Housing:** Inspect for cracks and damage around the housing. Also check for loose or missing screws.

6. **Screen:** Inspect for cracks and damage.

7. **Screen Cleaning:** With proper usage and cleaning, the E-Tool display will last the anticipated life of the product in the field (3 to 5 years) without significant changes in view ability or function. Key to achieving this performance is proper cleaning of the screen.

   NEVER SPRAY WATER OR CLEANING SOLUTIONS DIRECTLY ON THE E-TOOL. ALWAYS USE AN APPROVED CLEANING CLOTH.

   a. For mild cleaning tasks, always use the provided micro-fiber cleaning cloth; tougher contaminates such as oily fingerprints may require light dampening with clean water. Plain water in combination with the cleaning cloth will be effective for most contaminants, and should always be tried before stronger solutions are considered.

   b. For tougher cleaning tasks a mixture of Isopropyl alcohol and water (50/50) used in combination with the cleaning cloth will be effective and will not damage the Touch Screen surface.

   c. **NEVER** use paper products such as paper towels or wipes to clean the display surface. Paper products are abrasive and will act like fine sandpaper when used on the screen surface. This can cause damage to the screen surface and the anti-glare coating.

8. Keyboard Cover Cleaning:

a. For mild cleaning tasks, always use the provided micro-fiber cleaning cloth; tougher contaminates such as oily fingerprints may require light dampening with clean water. Plain water in combination with the cleaning cloth will be effective for most contaminants, and should always be tried before stronger solutions are considered.

b. For tougher cleaning tasks a mixture of Isopropyl alcohol and water (50/50) used in combination with the cleaning cloth will be effective**.**

Corrective action: Take corrective action as required. Be sure these items are documented on the MIL and logged in TRAKIT for LOGNET resolution.

Attachment 55

* E-TOOL BATTERY CHARGING

Figure A55.1. E-Tool Battery Charging

These battery charging processes are intended to help maximize the service life of the E-Tool battery as well as provide resolution to common issues that may be encountered.

1. Charge at room temperature (approximately 68° F (20° C) for best charge results. Charge acceptance of the battery is best at this temperature and will require the least amount of time to fully recharge. At room temperature the T-Tool battery requires approximately three (3) hours to recharge from a fully discharged state.

2. Charge the E-Tool whenever it is not in use:
   a. Exit all applications and restart.
   b. Connect to external power; Verify External Power LED is illuminated.
   c. Verify charge indicator LED is illuminated.

3. Whenever the E-Tool is signed out for use:
   a. Check for battery charge status (Recommended Fully Charged)

4. During each work day:
   a. Connect AC Charger, Vehicle Dock, or Vehicle Power Adapter whenever possible.
   b. Verify charging indicator LED is illuminated.

5. The E-Tool vehicle power adapter is intended to provide a convenient temporary power source for powering and charging the computer in a vehicle. The vehicle power adapter is not designed for continuous operation due to the nature of the electrical connection.
   a. Connect the E-Tool to the vehicle power adapter as needed, disconnect when charge is complete or not in use.
   b. Allow the E-Tool to power on and run from the internal battery periodically during the day.
   c. Regularly inspect the vehicle power adapter for loose or missing parts. Replace or correct as necessary.
   d. When not using the vehicle power adapter disconnect it from the vehicle power port receptacle and the E-Tool.

Battery Charging Troubleshooting

1. **Battery Power-Battery does not charge:**
   a. Verify the connection of the charger to a power source.
   b. Check charger connection to the E-Tool and verify that it is detecting external power. The power status LED should be lit.
   c. Verify Battery status (Windows Power Options Properties or E-Tool Power Saver); ensure battery is properly detected.
   d. If the battery is not detected or charge status incorrectly reports fully charged, the battery should be replaced.

Attachment 56

*MCCHORD FIELD C-17 ACCEPTANCE CHECKLIST FOR OFF-STATION AIRCRAFT

Figure A56.1. McChord Field C-17 Acceptance Checklist for Off-Station Aircraft

ALL PURPOSE CHECKLIST		PAGE 1 OF 1 PAGES		
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA McChord Field C-17 Acceptance Checklist for Off-Station Aircraft		OPR MXOOS	DATE	
NO.	ITEM *(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)*			
1.	Pro Super: Aircraft acceptance inspection performed IAW T.O. 00-20-1.	☐	☐	☐
2.	QA: Weight and Balance booklets to QA (follow-up with Chart A prior to next flight), verify weight and balance calculations IAW T.O. 1-1B-50.	☐	☐	☐
3.	Support/PS&D: Ensure AF Form 4076 (MAFB overprint) and AF IMT 2692 are checked for all OBLE (ensure to accommodate block configuration). Accomplish upload (if applicable) of any -21 Alternate Mission Equipment, and/or cargo handling equipment. Inform PS&D of any shortages.	☐	☐	☐
4.	Aircrew Flight Equipment: Inventory and upload required aircrew flight equipment IAW AFI 11-302. Ensure AFTO Form 781D, AFTO Form 46 and DD Form 1574 coincide.	☐	☐	☐
5.	Aircrew Flight Equipment: Ensure life rafts, age limited kits, and survival kit inspections are current and documentation on AFTO Form 781D, AFTO Form 46, and DD Form 1574 coincide.	☐	☐	☐
6.	Electro/Environmental: Interrogate Air Conditioning system IAW 1C-17A-2-21JG-00-1, Section 21-00 -3.	☐	☐	☐
7.	Electro/Environmental: Interrogate Manifold Fail Detection System IAW 1C-17A-2-36JG-20-1, Section 36-20-1.	☐	☐	☐
8.	Hydraulics: Interrogate the Hydraulic System Controller IAW 1C-17A-2-29JG-00-1, section 29-00 -03.	☐	☐	☐
9.	Hydraulics: Operational check of the Ramp Escape Blowdown system IAW 1C-17A-2-95JG-30-1, Section 95-31-01.	☐	☐	☐
10.	Guidance & Control: Operational check of all flight control Maintenance Bits (M-BITS) IAW 1C-17A-2-40JG-00-1, Section 40-00-02.	☐	☐	☐
11.	Guidance & Control: Perform M-BIT on Heads-Up Display (HUD) IAW 1C-17A-2-34JG-20-1, Section 34-25-01.	☐	☐	☐
12.	PS&D: Records Review after Acceptance Inspection required before first flight. Check TCTO's and Special Inspection Time Changes.	☐	☐	☐
13.	ASM will perform paint evaluations/aircraft score, see MAFBI 21-43, Chapter 9, Section 9.4.	☐	☐	☐
14.	ASM will conduct corrosion inspection IAW T.O. 1C-17A-23.	☐	☐	☐

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